

DOCTORAL THESIS

Young Children on the Autism Spectrum

Enhancing Social Interaction and Task Engagements through Visual Arts

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**Young Children on the Autism Spectrum: Enhancing Social Interaction and Task
Engagement through Visual Arts**

by

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Abstract

International literature on early childhood education refers to visual arts education as central to educational practice. However, visual art lessons in mainstream reception units tend to focus on individual children experimenting individually with art media. An assumption underpinning this research was that structured group activities in art lessons can benefit children with autism in developing social interaction skills. Some scholars recommended modifying mainstream art activities in order to facilitate reciprocal interaction among children with autism, their peers and teachers. The limited number of studies in this field that stimulated the current research into the potential use of visual arts lessons to teach young children with autism.

The project took the form of action research in a reception class of a mainstream school in the south west of Greece with four separate cycles of planning, acting, observing and reflecting on practical action. The research developed, implemented and evaluated the effectiveness of a visual arts-based curriculum unit for children with autism, aged 4 to 7 years. It consisted of four sessions and the outcome was a small video animation. The curriculum content was organised around constructing and narrating the story, creating the characters using the traditional art medium of plasticine and finally using the stop-motion application of the iPad to create a video animation. The curriculum intervention set out to: (i) enhance children on the spectrum social interaction skills and (ii) bolster their task engagement through digital storytelling and animation, as part of a team.

The main findings showed that the children with autism were more engaged and motivated during the plasticine and iPad tasks. During these tasks, children on

the autism spectrum were more included and reinforced for social interactions, such as turn-taking and give-and-take with their peers. They were less engaged or included during a story narration task. However, their engagement and attention were sustained when the narration was accompanied by drawings and pictures. Overall, the visual arts curriculum unit offered opportunities for interaction and enhancement of co-operation, task participation and inclusion. The structure of the sessions and the visual instruction strategies were beneficial, regarding understanding sessions' content, managing challenging behaviours, as well as improving motivation, participation and turn-taking. Finally, the study discusses effective strategies to include young children with autism in mainstream classrooms. It also discusses the original development of visual arts curriculum units that combine traditional art media with information and communications technology (ICT) devices, and their delivery from teachers to classes, comprising children that are both 'typically' developing and with autism.

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INTRODUCTION

I. The Broad Problem Area

The present legislation of Greece does not require the attendance of all children with autism in mainstream schools. Although education for autistic children with severe difficulties is generally provided for in special schools, children with less severe difficulties attending inclusive units in mainstream schools has created challenges for practitioners (Syriopoulou-Delli, 2010). While, integration into the mainstream curriculum has been implemented to some degree, this has highlighted inadequacies in the training of both special teachers and generalist teachers and most importantly the lack of any official curriculum guidelines for inclusive units. Many Greek teachers have been either sceptical of the value of inclusion, especially for children with autism who require specific kinds of instructional skills (Vlachou, 2006).

Early years teachers in Greece typically try to integrate teaching autistic children in mainstream reception units into the current National Curriculum which has been established by the Pedagogical Institute of Ministry of Education. As suggested by the Centre for Diagnosis, Assessment and Support in Greece, special education teachers follow an individualised educational programme with each autistic child while their peers are occupied in other kinds of activities with generalist teachers in classroom setting or, have free assessed time in the reception unit (Lampropoulou, 2005). An assumption underpinning this research is that although children with autism benefit from the one-to-one instruction in the special unit, they are not often included in activities with their 'typically' developing peers.

I.i Education for Children with Autism in Greece

The academic year 2000 was dedicated to dialogue regarding education in Greece, with a focus on special education. Although the first law concerning the education of children with special needs and children with autism spectrum disorders was enacted in 1981, there was no reference to inclusive education. The 1981 law dealt only with the separate provision for special education in special schools and institutions at primary and secondary level. The first attempts to form inclusive units in mainstream public primary and secondary public schools occurred after 2000 with law 2817/2000 (FEK, A'78/14.03.2000); law 2817/2000 differentiates special education from general education. It was developed by teachers and scientists in the field of special education and favoured the inclusion of children with special educational needs in general education schools. According to the Ministry of Education and Religions (2000) emphasis was placed on the progress and improvement of skills and abilities for children with educational special needs, aiming to integrate them into the common educational and social context (Polychronopoulou, 2003). This law established a new pedagogical organisation called Centres for Evaluation and Support (KDAY), which in the later law 3699/2008 was renamed to Centres for Differential Diagnosis of Diagnosis and Support (KEDDY) and in 2018 renamed to Educational and Counselling Centres (KESY) (ibid). According to Lambropoulou and Panteliadou (2011), children with special educational needs are referred to these centres, in order to receive diagnosis, support, evaluation and personalized special educational programmes. This law enabled students with special needs to participate in general education and laid the foundation for special education in Greece (Lampropoulou, 2003).

With regard to the inclusion of children with autism spectrum disorders in mainstream schools, there is no specific curriculum guideline in Greece. There is no guidance on modifications needed related to entitlement or how to respond specifically to the children with autism spectrum disorders. Autism was recognised by law in 1985 as a special category (N. 1566/1985) and the possibility of attendance in inclusive units of mainstream schools was legislated for in 2000 (N. 2817/2000). However, this effectively applies to a limited subpopulation of children with autism. According to Mauropoulou (2008) only 17 percent of autistic children in Greece attend to inclusive primary education units. Their inclusion is still contested and it is not clear whether they all benefit from an integrated unit or they need special school infrastructure (e.g., Simpson and Myles (1993) state that they require small structured educational environments and inclusion is not beneficial for all). The current thesis is that a well-structured mainstream school, with organised integration units offering opportunities for learning in inclusive units and programmes, can benefit some autistic children, provided that it is supervised by trained generalist and special teachers.

I.ii Art Education in the Greek Early Years Curriculum

Another problem is that additionally, art education in early childhood in Greece in general is dominated by the model of child as individual creator. Art lessons in reception units tend to focus on the individual child experimenting with different art media, gaining knowledge and recognition of colour, developing a variety of

drawing, painting and craft skills and learning to appreciate traditional and modern Greek art (FEK B'304/8.08.2003).

When children with autism are mainstreamed into reception units, the aim is inclusion in regular school activities. Early years teachers and teachers qualified in special education in Greece have yet to be persuaded to collaborate on reconsidering the organisation of their curricula, the structure of their teaching and new art education approaches and strategies that will meet the needs of all children better, including those with autism. According to Konstantinou et al. (2015) there is great concern in Greece regarding early years educators' teaching methods on visual arts. The results of their research reveal that early years teachers' training as concerns the design and implementation of art programs in early years education appears incomplete. Vaos (2008) refers to the importance of the continuous training of early years teachers as well as collaborating with specialty art teachers, can create more favourable conditions to strengthen a wider effort of collaborative visual art activities and upgrading in the field of art education in early years.

Johns (2006) writing about children with social problems, refers to the need to provide support for generalist teachers and art educators to interact with special needs teachers so as to achieve the necessary modifications to the curriculum within art classrooms. Gerber (2011), advocates that special education teachers advise teachers qualified in general education and suggests that "A partnership between art educators and special educators - working together, planning together, and suggests that sharing information with each other can prevent the negative experiences of the children", (ibid, p. 10).

II. Research Context and Questions

The context for this research is a reception class of a mainstream school in the county of Achaia, in Greece. The class has both autistic and ‘typically’ developing children and the researcher collaborated with teachers on designing, testing out and evaluating a visual arts curriculum unit consisting of four sessions that was organized around constructing the story, creating the characters using the traditional art medium of plasticine and finally using the stop-motion application of the iPad to create the video animation. The broad question formulated at the beginning of this research was:

1. What changes if any are needed in early years art education in Greece to make it more inclusive of children with autism?

The specific research questions were:

2. What is the effect of the current art curriculum in the reception class of the Primary school in county of Achaia in Greece on the autistic children’s social interaction and task participation with peers and teachers?

3. Could a visual arts curriculum unit that involves a story line, the medium of plasticine and the stop-motion animation, with an iPad can be effective in enhancing the social interaction and task participation of young children with autism and if so, in what ways?

4. Is collaborative action research an effective way to implement this kind of visual arts curriculum development in early years education in Greece?

III. Overview of Thesis

Chapter 1: Review of Literature

Chapter one reports on a conceptual framework for the empirical research, undertaken through analysis of theories about autism spectrum disorders, provision for special needs and inclusive practice, visual arts in the early years and of the relationship between visual arts and education for autistic children. Autism is studied through the cognitive and behavioural theories developed through the years. Inclusive practice is investigated through appropriate provisions for children with autism and the Greek reality in mainstream reception units. Visual arts education is examined through the lens of the historical concepts of early childhood learning, the importance of the teacher's role and effective provisions needed so young autistic children can participate effectively in visual arts activities.

Chapter 2: Research Methodology

Chapter two describes and justifies the choice of the methodology. It explains the design of the research with an emphasis on the research cycles defining action research methodology. Furthermore, the research context, participants, the process needed for ensuring validity and reliability of data in the whole research are presented. This section also discusses the considerations regarding ethics guidelines needed to be regarded in order to obtain an underlying knowledge of ethics and principles concerning research with human beings and specifically children with autism. Next the data collection instruments and the methods of

analysing data are presented. Specifically, this final section of the chapter discusses Vygotsky's (1978) developmental constructivism and "Activity Theory" and further Engeström (1987) and Engeströmet et al. (1999) second generation activity theory model, that this research's data analysis was grounded in.

Chapter 3: Research Cycle 1 –Defining and Analysing the Research

Problem

Chapter three reports on defining and analysing the problems underpinning the focus and hypotheses of this research. The main aims of this first research cycle were to i) observe and record specific aspects of the autistic children's behaviour through structured art activities designed by the head teacher in collaboration with the special needs teachers and free activities; ii) gain information about what occurred in the classroom and iii) to decide what could be adapted, or supplemented. The descriptions of lessons are presented and the data collected from the observations made by the researcher as a non-participant observer, are analysed and organised thematically. Finally, I report on action team's evaluation and my reflection which constitute the basis for the summary of findings and recommendations made by the action team for major changes and the development of a visual art curriculum unit that would help autistic children with their social interaction and task performance difficulties.

Chapter 4: Research Cycle 2 –Developing the Visual Arts Curriculum Unit

Chapter four focuses on the design and development of the visual arts curriculum unit. In cycle two the need for major changes considered the rapidly changing field of Information and Communication Technology (ICT) in the early years, special education and visual arts education is identified. In the first section I report on the justification of deciding to select the use of an iPad within the visual arts-based curriculum unit in combination with the traditional medium of plasticine and a story telling. In the second section I outline the curriculum framework informing the design of the experimental visual arts curriculum unit. Finally, the four sessions that make up the curriculum unit are briefly described and the art media, materials, resources and teaching approaches and strategies are presented and discussed.

Chapter 5: Research Cycle 3 – Implementing and Evaluating the Visual Arts Curriculum Unit Formatively

Chapter five reports on the procedure taken for implementing the visual arts curriculum unit for the first time with only in one group of children. This group consisted of one child with autism and three ‘typically’ developing peers, in the same reception unit in county of Achaia, in Greece. The lessons are described together and the observational data collected by the researcher as a participant observer, are analysed and organised thematically. Finally, I report on action team’s evaluations and my own reflection on the action with a view to this informing the changes I made to the curriculum unit before teaching it again in the following research cycle.

Chapter 6: Research Cycle 4 – Implementing and Evaluating the Revised Visual Arts Curriculum Unit Summatively

Chapter 6 describes the implementation of the revised visual arts curriculum unit, which was taught in four groups of children separately (each group consisted of one child with autism and three ‘typically’ developing peers). The chapter begins by explaining the roles of participants and the procedures agreed by the action team before implementing the revised visual arts curriculum unit. It continues by describing each session separately for each group of children. The descriptions are followed by a summary of discussions of teachers and researcher’s reflections and evaluations.

Chapter 7: Reflection and Summative Evaluation

Chapter seven reports on a final and thorough reflection on and evaluation of the data as a whole. The strengths and weaknesses of the design of the curriculum unit is presented and discussed under the following section headings: i) instructions and strategies for teaching young children with autism; ii) strengths and weaknesses of the content on the children’s learning development; iii) instructional media and resources; iv) the educational value of the iPad for the children’s learning and for enhancing social interaction and participation; v) strengths and weaknesses of the visual arts curriculum unit as a whole on the children’s with autism social interaction and task participation; and vi) of action research as a methodology for curriculum change.

Chapter 8: Summary of Findings and Conclusions

This final chapter presents the findings and conclusions of this research. Firstly, I attempt to answer the research questions and report my conclusions about what happened when the visual arts curriculum unit was implemented in a mainstream reception class and how the combination of traditional art medium and contemporary resources positively affected children's with autism social interaction and task participation. Consideration is given to the selection of "activity theory" as a theoretical model for analysing the effect of the visual arts curriculum unit as a whole. Then I reflect on my experience of using action research and its effectiveness as a methodology for effective change in teaching children with autism in mainstream school through visual arts. Next, I explore some implications of the research for early years teaching practice in Greece. As a final point, further discussion is made about the contribution of this study to knowledge and recommendations for future research.

IV. Language and Terms used for Autism

There is a controversy regarding the language and terms used to identify autism and a range of terms such as 'Autism', 'Autism Spectrum' (AS), 'Autism Spectrum Disorder' (ASD), 'Autism Spectrum Condition' (ASC) or 'Asperger' introduced by Baron-Cohen, are being used (Kenny et al., 2015). Specifically, Kenny's et al (2015) findings about the terms that should be used to describe autism reveal that there is no universally accepted way to describe autism. For instance, professionals tend to use terms of person- first language such as 'person with autism' or 'person on the spectrum', whereas autistic adults and parents

prefer disability- first terms such as ‘autistic person’. As a consequence, all these terms are being used interchangeably in the present thesis such as ‘child/ children with autism’, ‘autistic child/children’, ‘child/children on the spectrum’ or ‘child/children with ASD’.

CHAPTER ONE

REVIEW OF LITERATURE

1.0 Introduction

The review of literature reported in this chapter is the outcome of a systematic search strategy including electronic databases and manual searches (Appendices 1 and 2). A systematic literature review was undertaken by the researcher to identify published data on studies related to: i) Autism Spectrum Disorders, ii) Visual arts education in early childhood learning, iii) Inclusive practice and provision for children with autism in mainstream classrooms. The relevant fields of literature are organized around the individual but central themes of autism, inclusive practice and visual arts education. Autism is studied through the cognitive and behavioural theories developed through the years. Emphasis is given in the qualitative impairments and behavioural characteristics of autism, with which the participant children with autism in this research have been diagnosed. Inclusive practice is investigated through the appropriate provisions for children with autism regarding the Greek educational curriculum in mainstream reception units. This research took place in a Greek reception class and probed the lack of effective inclusion of children on the spectrum and its effective curriculum strategies and guidelines through visual arts education. Visual arts education is examined through the lens of the historical concepts of early childhood learning, the importance of the teacher's role and the effective provisions needed so young autistic children can participate effectively in visual arts activities. References about the development of inclusive practice and visual arts education in the UK and the United States are indicated, while they constitute a theoretical influence for the development of a visual arts-based

intervention that can be applied and evolved in a Greek mainstream and inclusive reception classroom, with a care about young autistic children. Each of these fields has an important role in this research and they are considered as interconnected. The literature draws upon each research cycle and development of the present research.

1.1 Autism Spectrum Disorders (ASD)

1.1.1 Defining and analysing the Picture of Autism

The nature, origin and definition of autism are constantly debated (Frith and Hill, 2003; Frith 2001; Wing, 2003). According to the National Autistic Society, ‘autism is a lifelong developmental disability that affects how people communicate and interact with the world.’ (NAS website, 2020). The American psychiatrist Leo Kanner (1943) and the Austrian paediatrician Hans Asperger (1944), were the first to describe the condition of autistic spectrum disorders and listed a number of their most important features, such as autistic aloneness and desire for sameness (Frith, 2003; Bogdashina, 2006; Bowler, 2007). Specifically, Kanner (1943) described autistic children as unable to develop reciprocal interactions and relations with people around them. Moreover, children with autism have delayed acquisition of language and delayed echolalia, engaging in repetitive play, with a desire to maintain their daily routine and refusal to accept changes in their daily life programme. Yet they have good memories as well as normal physical appearance (ibid.). Kanner (1943) characterized the condition as “Early Infantile Autism” and his research was widely influential, whereas Asperger’s definition was “Childhood Autistic Psychopathy” and his research

was more followed by the psychiatric researchers (Boucher, 2009). In the 1950s and 1960s, researchers proposed two groundless descriptions of autism as a neurotic condition and a form of psychosis, respectively. However, these theories were subsequently reviewed and disconfirmed.

Autism is currently assessed and diagnosed behaviourally. It varies in severity and occurs at all levels of abilities and child development; thus, its diagnosis is based on specific behaviours that are referred as autism spectrum disorders (Frith, 2001; Wing, 2003; Boucher, 2009; Ockelford, 2013). In the last decade, successive editions to initial definitions have been made by the World Health Organization (WHO, 2010) and the American Psychiatric Association (APA, 2013) referring to autism spectrum disorders as a range of pervasive developmental disorder with specific behavioural criteria for its diagnosis (Wing, 2003; Boucher 2009). According to the WHO (2010) and APA (2013) these diagnostic features are: i) impairment in reciprocal social interaction; ii) impairment in communication and iii) restricted repetitive and stereotyped behaviour which are further analysed as follows.

1.1.2 The Impairments and Behavioural Characteristics of Autism

The research of Wing and Gould (1979) and Wing (1996) in the early 1990s on the description of specific characteristics of autism also inquired into its developmental feature and resulted in a descriptive definition as “the triad of impairments”. Wing’s (1996) research is based on brain function, presented by children along the spectrum, highlights the complex condition of autism and attempts to explain why autistic children experience these difficulties. The triad

of impairments that Wing (1996) identified, describes the inability of children on the spectrum to communicate, socialize and engage in imaginative play.

According to Wing and Gould (1979), autism is a complicated and extensive developmental disorder and “the triad of impairments” are used as criteria for its diagnosis. The deficit areas that constitute “the triad of impairments” are: i) social interaction, ii) communication and iii) imagination. They argue that these three impairments account for the eccentric social behaviour of children with autism. On the other hand, Jordan and Jones (1995) argue that the autistic spectrum disorders should be characterised as developmental differences rather than impairments, due to observed variations among children. However, Wing (1996) insists that the “triad of impairments” is a descriptive definition that rationalizes not only the complex condition of children autism but also those with high- functioning autism and Asperger’s syndrome.

- Impairments of social interaction: The disorder in social interaction has four fundamental characteristics; autistic children: i) cannot reveal gestures and facial expressions to interact with people around them; ii) have difficulties to define the behaviours of others and therefore cannot manage to maintain social relationships; iii) are not willing to share their interests and iv) do not show any emotional and social reciprocity. Wing and Gould (1979) refer to four social types of autistic children sharing the above characteristics. They categorize them into ‘aloof’, ‘passive’, ‘active but odd’ and ‘over-formal’ groups. Children who belong to the ‘aloof’ group seem to avoid eye and physical contact with people in their environment. Their emotional expression is limited and social interaction difficulties are often accompanied with intellectual dysfunction. Children in the ‘passive’ group are willing to interact with other children and adults, although

they do not initiate these interactions and tend to follow orders in group activities. They often have good cognitive skills in mathematics and literacy. However, any change in their daily programme brings about upset and stress. The 'active but odd' group includes children with highly-functioning cognitive skills, who show an intense interest in interacting with other children and even more with adults. However, their approaches to other people are characterised as unilateral, due to the fact that they are not interested in their emotions and needs. Finally, the 'over-formal' group of children with autism, which is the most common, demonstrate high intelligence, developed speech comprehension and communicative skills, but they are unable to understand the beliefs and desires of the people with whom they interact or predict their behaviour.

- Impairments of communication: Disorders in speech expression and comprehension are most common in autistic children. Howlin (1999) notes that speech expression and comprehension difficulties are the first indications of autism, with speech comprehension appearing more limited than speech expression. In addition to delays in speech development, autistic children appear unwilling to form any kind of communication, because of their inability to understand the pragmatic features of speech. As a consequence, they have a literal understanding of speech and are challenged to understand metaphoric allusions. Moreover, echolalia is a very common characteristic of autistic children (Lord and Paul, 1997). This means that many are able to reproduce exactly the sounds and phrases they hear. This shows that they are aware of the communicative environment around them, but are unable to proceed with spontaneous communication.

- Impairments of imagination: Autistic children are widely understood to lack creativity and have limited development in pretended play; although they hold toys, their play is repetitive and stereotyped. They can copy the actions of others but without understanding their real meaning and purpose. However, Peters and Gillberg (1999) argue that not all autistic children lack imagination and sometimes surprise people with their imaginative abilities and skills in drawing, painting and music.

The current research focuses on the core deficit of social interaction and on stereotyped behaviours that are presented by children along the spectrum and prevents them from task performance in their daily school routine activities. The combination of specific behaviours related to abnormal social interaction communication and repetitive patterns of behaviour is recently referred as autism spectrum disorders. Current research and specifically the WHO (2010) and the APA (2013) have set out revised diagnostic criteria such as the International Statistical Classification of Disorders (ICD-10) and the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) respectively to define and describe the complex condition and characteristics of autism. These characteristics are:

- i) Qualitative Impairment in social Interaction: Based on the description of Wing (1996), and the WHO (2010) and APA's (2013) criteria for impairment in social interaction, children along the autistic spectrum present an impairment in the use of nonverbal behaviours, such as eye-to-eye gaze, facial expressions and appropriate gestures needed for social interaction. They fail to initiate and develop peer relationships and present a lack of interest to share enjoyment with other people or develop any social or emotional reciprocity. These characteristics

may be presented in all abilities and situations and a child might have a combination of these to belong in the autistic spectrum.

However, Wing (1996, 2003) refers to four different types of autistics that might present different characteristics and behaviours, as referred above and presents different kinds of their behaviours that show that not all of them are asocial.

ii) Qualitative Impairment in Communication: children on the autistic spectrum present a delay or even absence of developmental spoken language; although some have developed a kind of adequate speech, they might be unable to initiate or sustain a conversation with others. They also present a stereotyped and repetitive use of language and lack of social imitative play to a developmental level (WHO, 2010 and APA, 2013).

Wing's (1996) description of communication impairment does not differ from the ICD-10 and DSM-IV criteria, but she emphasizes the impaired language as evidence of difficulty in language comprehension rather than a problem in the acquisition of language system (Wing, 1996 and 2003; Boucher, 2009).

iii) Restricted, Repetitive and Stereotyped Patterns of Behaviour: Finally, it has been observed that many children with autism present repetitive and specific patterns of interests through their inflexible routines and repetitive motor manners or persistent preoccupation with parts of objects that they focus on.

Wing (1996) regards the impairment of imagination and creative play as a separate impairment, whereas the ICD-10 and DSM-IV criteria refer to the lack of imagination and creativity as a result of the preoccupation with specific interests and repetitive behaviours that determine autistic children's routine.

Specifically, WHO (2010) and APA (2013) have provided these standardized criteria to diagnose autistic spectrum disorders and for a positive diagnosis the child should present either a combination of six or more of the characteristics of the above impairments, or at least two characteristics from the qualitative impairment in social interaction and one each from impairments in communication and restricted, repetitive behaviours. Wing (2003) and Boucher (2009) refer to the limited comprehensive description of autism by both the ICD-10 and DSM-IV manuals. They note that the above impairments constitute crucial diagnostic features for the autistic spectrum, but specialists should take into account that these impairments can present in various ways and situations in children and adults and finally distinguish low-functioning from high-functioning autism. Also changes in behaviour can occur throughout the development of children, as they age and according to different environments and education.

1.1.3 Explanatory Theories of Autism

The pioneering theories and researches of Kanner (1943) and Asperger (1944) were foundational in this field. The cognitive theories developed after the 1990s were adjusted to accommodate the correlation between the neurological functions of the brain and the behaviour of children on the spectrum, and focused on understanding and explaining autism rather than exploring ways of treating it. A better understanding of autism that provides solutions on how to improve the education of children with autism is essential. The neurological- biological explanations of autism in relation to the cognitive and behavioural theories are indispensable for the management of the spectrum, as is research focusing on

approaches to educate and facilitate the life of autistic children. In the last decade, three significant theories were developed and experimental evidence showed that they are linked with and explain the deficits of social interaction and communication, as well as the restricted and repetitive behaviours. Specifically: i) the ‘theory of mind’ explains the impairment in social interaction, ii) the ‘cognitive abnormality of weak central coherence’ explains the impairment in communication and finally iii) the ‘executive dysfunction in autism’ accounts for the stereotyped and repetitive behaviours. These theories and their explanations will be further discussed as follows.

In the 1980s the dominant hypothesis was that autistic children lack a “theory of mind” as the reason for the crucial component of impairment in social interaction. The “theory of mind” constitutes a metarepresentational developmental mechanism which enables children and adults to form mental states to oneself and others; namely being able to know and understand what other people feel, want and have beliefs (Baron- Cohen et al., 1985; Baron Cohen, 1997). Baron- Cohen et al. (1985) designed an experimental false belief test (the Sally-Ann false belief task) to test whether children with autism could understand false belief, i.e., someone else’s belief that could be different from their own. Autistic children were found to have difficulties in many areas that are consistent with a “theory of mind” deficit. The results of the experiment by Baron Cohen et al. (1985) evidenced that autistic children participants could not appreciate the difference between their own and the experiment subject’s knowledge. As a result, autistic children fail to represent mental states, impute beliefs to others and predict their behaviours. The ability to make assumptions about what others believe constitutes a component of acquiring social skills, and

results in autistic children failing to attribute “theory of mind”. The mind blindness hypothesis first researched by Baron-Cohen (1997) is proposed to account for the social failure of autistics. The experimental studies of Baron-Cohen (1997), focusing on three signs of the mentalizing procedure in young age, are linked to social interaction and confirm a first infant diagnosis for autism. Specifically, autistic children fail to follow another person’s gaze, point at objects and understand make-believe play. The “theory of mind” remains a robust cognitive theory that explains in part the difficulties that children with autism have in communication and socialisation.

Research indicates that, on the whole, individuals with autism fail “theory of mind” tests, although a small percentage of individuals pass them (Bowler, 1992; Syriopoulou-Delli et al., 2017). This might be explained by the different profiles of abilities or difficulties along the spectrum. It is possible that a delay in the development of “theory of mind” and not necessarily a deficit, affected by delayed language development, may be responsible for underperformance. Happé (1995) found that verbal mental age is the main predictor of success in first-order false belief tests for children with autism, while for “typically developing” children, the main predictors are both age and verbal mental age. The research of Syriopoulou Delli’s et al. (2017) questions the theory of a core “theory of mind” deficit that all individuals with ASC share.

Furthermore, the ‘weak central coherence’ theory, seems to account for the verbal comprehension deficits, and tries to explain the non-social features of autism (Frith and Happé, 1994). The central coherence theory outlines the construction and thinking of higher-level meaning in context from various information, whereas autistic children need to integrate information at different

levels in order to process and understand it (ibid). The first attempt to ascertain the level at which central coherence is weak in autistic children was made by Happé (1996). In their review of empirical studies, Happe and Frith (2006) and Happe and Booth (2008) concluded that autistic children present an inability to process global information as a lack of practice with wholes and integration of information for meaning. Instead, they have a tendency to local precedence and focus on details, neglecting in that way the whole picture.

Finally, according to Hill (2004) and Ozonoff et al. (2007) the repetitive patterns of behaviour and restricted interests present by autistics can be explained by the cognitive theory of executive dysfunction. Specific focus has been set on the executive functions of planning, mental flexibility and inhibition. Autistic children present an impairment on planning a sequence of actions, difficulties in the regulation of motor acts and imbalance in situations shifting, and reflection on arbitrary rules. In further studies and experiments Ozonoff et al. (2007) focused on the domain of flexibility, which is hypothesized to be instantly linked to repetitive behaviours. Specific tests showed that autistic children present a preservative situation and find it difficult to change from one mode of thinking to another. As a consequence, they sustain a persistent reproduction of activities.

Finally, Brunsdon and Francesca Happé (2014) argue that it is questionable whether any of the above theories can account for the full triad of diagnostic features of autism spectrum disorders. Furthermore, they allege that “theory of mind” deficit hypothesis provides a good explanation for the social and communication impairments in autism spectrum disorders, but struggles to explain the non-social difficulties, such as repetitive behaviours, motor problems and sensory difficulties. Whereas, the executive dysfunction theory in autism

spectrum disorders, may underlie the repetitive behaviours due to a failure to generate new behaviours. In contrast to the prediction that cognitive deficits are independent, a correlation between “theory of mind” and executive dysfunction in ASD has been reported. Both Harris et al. (2008) and Pellicano (2007) reported that children with autism, who performed poorly on “theory of mind” tasks, also performed poorly on executive dysfunction tasks, and vice versa. Specifically, Pellicano’s (2007) research offers a possible developmental relation between “theory of mind” and executive dysfunction, by suggesting that executive dysfunction is crucial for the development of “theory of mind”. Additionally, Brunsdon and Francesca Happé (2014) advocate that some evidence of independence of the weak central coherence from the other two cognitive theories. Due to severity of abilities and difficulties, regarding both cognitive and behavioural impairments of children with autism, Syriopoulou Delli’s et al. (2017) suggest they are a heterogeneous group with varying strengths and weaknesses. They argue that theories can help delineate a general profile and outline the main difficulties faced by children with autism in their daily activities. Beyond that, however, they believe that autistic children require individualized educational programmes that take advantage of their strengths and improve their weaknesses.

This research focuses on the specific manifestations of social interaction and task participation in autism. The project sets out to investigate the potential of a visual art programme to impact positively on these impairments in autistic children, within the early years education context. Specifically, a decision was taken to observe autistic participants’: i) social interaction skills with peers and teachers (further analysis focuses on adult and child interaction, peer interaction and

prompting interaction), and ii) their levels of enjoyment and motivation and task participation (the exact time that they were on/off task). Important consideration of the cognitive theories of “mind blindness” and “weak coherence” and their impact on the characteristic features of autistic children’s communication and social interaction will be considered in this research with the objective to explore, understand and develop a positive way of teaching intervention. A classroom intervention will explore how autistic children can be optimally prompted to communicate and form reciprocally relationships with others, through a well-planned visual arts programme and appropriate tools.

1.2 Inclusive Education and Practice

1.2.1 Provisions for Special Needs and Inclusive Practice

Over the past two decades there has been an attempt to create a more inclusive provision for children with special educational needs and disability (SEND) in the UK and the United States and to educate them alongside their ‘typically’ developing peers (Rose, 2005). These efforts of inclusive practice have been influenced by a shift towards a more inclusive society in general and concern with consistency in the goals of social justice and equality for all. In the 1990s, in the UK, according to the term integration, many children with SEN and mild difficulties were integrated to some extent in mainstream school settings, but were excluded from some school practices, due to the fact that they were unable to access the National Curriculum at the same level as their peers (Farrell, 2005). From then on, the National Curriculum became associated with the concept of inclusion although it was recognised that it required modifications in order to

meet the needs of children with SEN. In 1990s the term inclusion replaced the term integration and was underpinned by Rose's (1998) idea that the curriculum should i) be considered as a framework within which "firstly the aims of education should apply to all children, no matter what their abilities and needs, and irrespective of the type of school attended and ii) must recognise the differences in abilities, aptitudes and needs of each individual pupil", (Rose, 1998, cited in Tilstone et al, 1998, p.32). Mainstream schools were encouraged to reconsider the organization of their schools and instructional strategies so as to meet the needs of children with SEN. Specifically, the main purpose of inclusion is to remove barriers to learning and discrimination against these children and improve educational outcomes. Although a significant number of researchers argue that there is a gap between the stated purposes of inclusive practice and its efficacy, according to Lindsay (2002) it is now firmly established as the main policy imperative with respect to children with special educational needs and disabilities.

The term inclusion is associated with locational, social and functional integration. Specifically, children with SEND can be included in mainstream schools and are provided with special provision, share out-of-classroom activities as well as participate in all educational programmes. In order for the above purposes to be accomplished the aspect of inclusion should be at the heart of the concept of a "normal curriculum" and children with SEND should be given the chance to experience the same conditions of everyday life at school, and regular circumstances as their 'typically' developing peers.

There has been controversy with regard to the inclusion of children with autism in mainstream school settings. This policy is still contested and it is not clear

whether they all benefit or whether they need a special school infrastructure. For instance, Simpson and Myles (1993) state that, autistic children require small structured educational environments and therefore inclusion is not beneficial for all of them. Although, large numbers of autistic children receive their education in mainstream schools, this is a complex and poorly understood area of education (Barnard et al., 2000).

1.2.2 Education for Children with Autism in Mainstream Reception Units in Greece

When autistic children are included in mainstream schools in Greece, there is no requirement that any modifications are made to the curriculum related to entitlement or to respond specifically to their needs. Although autism was recognised in 1985 as a special category (N. 1566/1985) and the possibility of attendance in inclusive units in mainstream schools was legislated for in 2000 (N. 2817/2000), this applies to only a limited population of such children. The lack of effective inclusion for autistic children, in mainstream reception units in Greece, is accompanied by deficiencies in effective curriculum guidelines and collaboration between generalist and special education teachers (Lambropoulou, 2003). In the classroom, the generalist teachers occupy 'typically' developing children with cross curricula activities that include "expression and creation", while the special education needs (SEN) teachers tend to follow an individualised educational programme with each autistic child. The lack of both structured and joint activities impedes the development of autistic children in social interactions. Although they benefit from one-to-one instruction in the

special units, they are disadvantaged by being excluded from activities with their ‘typically’ developing peers.

1.3 Visual Arts Education in the Early Years

1.3.1 The Visual Arts in Early Childhood Learning

Visual arts are defined by the National Art Education Association (1994) in the United States, as a domain of learning that includes fine arts, communication and design arts and environmental arts. This domain of learning can be rich and important for early years’ arts education. Similarly, visual arts are considered as a discipline within the National Curriculum of early childhood both in the UK and Greece. It offers anticipation for thought, cognitive development, social and cultural engagement and therefore it is held to be accessible to all abilities (EYFS, 2010; FEK B’304/8.08.2003). The impact of visual arts education on the development of early years children has been a focus of research, for some time in both the UK and the United States. In these two countries visual arts has held a central role in the early years curriculum since its inception and history from the early 1900s. The emphasis of visual arts in the early years curriculum began in the early 1900s with the Frobelian and Margaret Mcmillan’s approaches in the US and in England respectively, and highlighted the importance of children’s imaginative development. Children were provided with opportunities to use and experiment with different materials such as crayons, clay and paint and foster their freedom of expression (Bernard, 1993). Similarly, John Dewey in 1920, in the US introduced child-centred schools, in which the education emphasized freedom, expression and the interests of the children. Specifically, all the “progressive schools” established in the US, were influenced by Dewey’s

philosophy and placed the arts at the core of the curriculum. The basic premise was that children should be encouraged to engage in a repertoire of art curriculum experiences in order to cultivate their artistic skills. This means that children could unfold their art abilities in time by being provided only by an appropriate environment. The main pedagogical characteristics of this approach were child's experience and self-expression without being intervened by the teacher (Eglinton, 2003; Lim, 2004). Specifically, children were engaged in process- oriented visual art activities, through which it was believed that they could express their natural impulses to do art and communicate and express their own ideas. They naturally developed through spontaneous steps of artistic growth without any teacher guidance. The American art educator Victor Lowenfeld (1968) and Rodah Kellog (1969) developed theoretical frameworks of children's developmental stages in art practice and were influential in keeping the visual arts central to the early years curriculum in the US. However, in Lowenfeld's (1968) pedagogy, the role of the teacher was similarly limited just to providing space, time, encouragement and materials.

The frameworks of free expression of young children that theoretically prevailed over twenty years ago, underpinned the *child-centred* instructional approach to education in general that rendered the early years teachers as facilitators rather than instructors (Gardner, 1982; Lowenfeld and Brittain, 1987; Wright, 1991; Eglinton, 2003). The *child-centred* model of early years visual arts education, demands a supportive role of teachers and an active one of children. Teachers are understood to facilitate children's self-expression, art development and enhancement and act to protect children's autonomy by providing explorative environments. The teaching of art skills is regarded as an imposition and

unwelcome intervention and is discouraged. The expressionist model of visual arts education for the early years appears to focus only on the potential of art practice for emotional release and self-expression of children. It ignores the cognitive functions of visual art education and leads to the undervaluation of the crucial pedagogical roles for general and trained in art teachers. Defining visual arts as self-expression, means that children are left to their own devices and are not provided with formalized instruction that could potentially expand their repertoire of materials and techniques. As a consequence, children become involved in a process of making art and an outlet of feelings, where the teachers do not fulfil their role to provide children with significant art taught techniques and dialogue. This is to enhance not only their art process experiences, but also their artistic skills and involvement of art production and appreciation.

Although the early theories provided a basis for further research in the field, more contemporary investigations are no longer exclusively concerned with developmental stages in drawing and painting or with free expression. They consider a wider range of aspects that consists in the impact of visual arts on art appreciation and art criticism as well as art production that emphasize knowledge and artistic skills (Eglinton, 2003; Tarr, 2008; Brown and Deans, 2008). In this view teachers need to create an art learning environment that engages children with viewing and responding to art, as well as creating experiences. Recent researchers and policy makers in the field of early years visual arts education still advocate placing the arts at the core of the curriculum but stress the crucial role of teachers in structuring children's art experiences in a way that will contribute to their cognitive and aesthetic development. They also advocate including art appreciation and using dialogue in more structured art programmes (Ji- Hi Bae,

2004; Loomis et al, 2007; Brown and Deans, 2008; Tarr, 2008; Eckhoff, 2008; Burkitt et al, 2010; McArdle and Wong; 2010).

However, there are differing views still about curriculum aims and content. In addition, there are differing views on the most effective ways to involve young children in these diverse forms of art learning and what kind of roles early years teachers should adopt to support and offer a rich art learning environment and art experiences. In the last decade, theories that view teacher and child as equal partners in learning have increasingly been applied in early years environments in Western Europe and the United States (Eglinton 2003; Eckhoff, 2008). In this view teachers seek to motivate children's engagement through both teacher led and child-directed experiences. This interventionist approach characterizes much contemporary early years instruction (ibid.). Eglinton's (2003) comprehensive model is an example of this approach of visual arts education for early years and includes three dynamic and interactive kinds of content, which are art making experiences, encounters with art and aesthetic experiences. Eglinton (2003) defines art making experiences as art activities that have an important, pedagogical process and are constantly supported by the teacher through motivation and dialogue. Both motivation and dialogue provoke children's interests and support art learning and encouragement. For instance, during a simple art activity where there is no interaction between the children and the teacher, the children may have to follow specific steps, using already selected and formed materials by the teacher in order to create something very similar to the initial adult model. However, does such a process offer the children the learning of new skills or is it rather just a physical art implementation? On the other hand, an art making experience provides the children with such valuable processes

where they can apply their new knowledge and skills to new art projects and extend their ideas, always with the active involvement of the teacher during their artistic development. Yet, in order to implement a pedagogical art programme for the early years, encounters with art and aesthetic experiences are indispensable to this process. Namely, children are offered opportunities to learn how to appreciate encounters with familiar works of art and an appropriate environment rich in beauty that function as a link to their own art projects (ibid.).

Thus, contemporary early years visual arts education demands expansive and holistic art instruction, where motivation, observation, making, dialogue and finally reflection upon art products take place in both process and final product stages by the children and teachers. The active role of the teacher is critical for effecting this kind of learning (Piscitelli and Weier, 2002; Eglinton, 2003; Brown and Deans, 2008; Eckoff, 2008; McArdle and Wong; 2010). In particular, Eglinton (2003) argues that these art experiences are only dynamic and interactive, if teachers fulfil their active role.

Because the teacher's role in instruction in visual arts is pivotal in motivating and engaging children in art making and dialogue processes, it will be discussed further in the section that follows. Emphasis is given to the role of early years teachers in Greece, operating within the Greek national curriculum, since this is the context for the present research. Reference is also made to the theory and practice of visual arts education in the United States and other countries in Western Europe that influenced the design of research such as the UK and Italy.

1.3.2 Teachers' Roles in Visual Arts within the Early Years Curriculum

There is no separate visual arts curriculum for early years in the Greek educational system. The curriculum for this age group in Greece covers the following five areas of learning: language and literacy, mathematics, study of the environment, expression and creation. These are not taught separately and the content is integrated around specific themes or teaching projects (FEK B'304/8.08.2003). Thus, visual arts education in early years is included in the main curriculum and implemented mostly through visual art activities which the teacher often organizes to achieve learning objectives for other subjects as well, in an interdisciplinary way. These art activities include drawing, painting, collage, three dimensional constructions, using colour pencils and markers, tempera paints, plasticine and clay, roll papers, scissors, glues and recycling materials. The organization of this early year's educational system helps Greek practitioners to organize their curriculum this way. However, according to Sofou and Tsafou (2009), the significance of visual arts education in early years in Greece, depends on teachers' province; their orientation towards and knowledge of art, influences the place of visual arts within the curriculum. Early years teachers in Greece often lack confidence in teaching visual arts due to their lack of knowledge. On the other hand, when they structure visual art activities, they take an active role, but they are not up to date in current theory and practice. They remain faithful to the expressionist model of visual arts education, and characterize their role as facilitator rather than instructor (ibid.). The approach of Greek early years teachers with regard to visual arts education involves the structure of visual art activities rather than art making experiences as referred above according to Eglinton's (2003) comprehensive model. According to

Eglinton (2003) visual art making experiences demand the active role of the teachers so as children to be motivated, being taught art skills and become engaged in a dialogue about art products and artists.

According to numerous scholars (Malaguzzi, 1993; Hevett, 2001; Tarr, 2001; Wexler, 2004) Reggio Emilia nursery school pedagogy is successful in meaningful dialogue between children and teachers through the application of valuable art making processes and aesthetic experiences. Teachers are constantly in verbal communication with children in order to present them with a form of art criticism and aesthetics, introduce to them adults' art work and talk about them and their own artwork (Mulcahey, 2009). Specifically, Malaguzzi (1993) highlights the potential image of each child connected to adults and other children and considers their relationships fundamental to this pedagogy. Children in Reggio Emilia school settings are considered as active learners and similarly teachers are presented as collaborators in this learning process (Hevett, 2001). Regarding the visual arts projects applied in Reggio Emilia school settings, there are teachers "atelieristas", who have the significant roles of instructor, guider, co-learner, facilitator, researcher and reflective practitioner. The specialist "Atelierista" works alongside the children and general teachers in small groups. According to Malaguzzi (1993) small groups are vital functional tools for the better development and information of progress of both teachers and children. "Atelieristas" provide the group with occasions so as children to impose ideas of arts projects and plenty of time to work with tools, art media and finally exercise their skills and learn new techniques (Tarr, 2001). Thereinafter these visual arts making experiences, both teachers and children of the group work as researchers and reflective practitioners. Data of their work is collected during different stages

of their art works and projects, such as photos and videos of the children working and recordings of their discussions with reflections upon them (Hevett, 2001).

With regards to visual arts education the Reggio Emilia pedagogy resembles the interventionist approaches of contemporary theory and practice. What is in actuality referable is the notion of an intense action and reflection of both sides, teachers and children as active and competent who constantly participate in a process of thinking, doing, discussing, engaging in processes of problem solving and cultivation within a group.

Recent international research into early years visual arts education emphasizes the notion of an effective and active role of early years teachers within visual arts education. However, recent research into teachers' perceptions of and roles in visual arts education still differ and remain traditional according to the following three orientations: i) 'the little – intervention orientation', ii) 'the production orientation' and iii) the 'guided – exploration orientation' (Kindler, 1996; Eglinton, 2003). The first orientation emphasizes the freedom and self-expression of children. They are left alone to create their own art products and interact with materials, without any teacher interference (ibid.). The 'production – orientation', is the exact opposite, in that the teacher directs the whole art lesson process of learning and provides children with a final art product. The teacher supervises the complete art making procedure of children (ibid.; Szyba, 1999). Children rely too much on their teacher's instructions for following each step of creating something very similar to the initial product that has been shown to them and thus the teachers fail to create a meaningful art making experience for them. Wright (2002) argues that the right approach lies in the middle, when teachers act as guides and co-learners alongside the children and not just as

supervisors. This belief finds its expression in the third model, the ‘guided – exploration orientation’ approach that differs from the other two in a unique way. This model emphasizes both skill acquisition and application of existing knowledge to new projects and ideas of children. The teacher still encourages the children to interact with materials but in a more focused way. This model is also characterized by a continuous dialogue between teacher and children regarding materials, techniques and ideas and their reflection, recalling previous memories of what they have done and revisiting and expanding old ideas as an inspiration to develop new (Kindler, 1996; Kolbe, 2001; Eckoff, 2008; Burkitt et al, 2010).

As an early childhood teacher with a special education qualification and as a researcher, I decided to experiment with the contemporary theory and practice of visual arts education in early years, act as a guide and adopt a more reflective and flexible mode of instruction than I have used previously. My intention was to attempt to respond more effectively to the spontaneous learning behaviour of young children and improve their level of participation, thinking, engagement and motivation to art making experiences.

1.4 Visual Arts Education and Education for Children with Autism

1.4.1 Inclusion of Visual Arts in the Curriculum regarding the Needs of Young Children with Autism

Creating an inclusive curriculum that integrates visual art into general education and placing children with SEND and autism with their ‘typically’ developing peers, require increased emphasis on development of a less restrictive

environment for these children (Gerber and Guay, 2006). This issue refers to the placement of autistic children in general inclusive education, where their special abilities and needs are taken into thoughtful consideration. Thus, autistic children are co-taught by both a general and a special education teacher and should effectively participate in all curriculum educational programmes, including the art classroom. Appropriate modifications and effective instructional and classroom strategies, organised by both general and special education teachers, and an art teacher as well if relevant, give autistic children the chance to engage in activities that enhance their imagination and critical thinking. This also gives them the chance to engage in the kind of conversations about their own or others' artwork that develops their knowledge about the world and ability for social interaction. The teachers have to create conditions for communication through questions and answers between peers and teachers through visual art making lessons (ibid.; Wright 2002 and 2001; Christensen and Kirkland, 2009).

There is a current belief that art education, unlike other disciplines of the curriculum, is the most assessable to all children, regardless of their abilities (Gregoire and Lupinelli, 2005). This assumption has led to the implementation of an inclusive visual arts classroom, which is regarded by Guay (2010), (cited in Geber and Kellman, 2010) as the most effective discipline to enhance engagement and connection of autistic children with their peers and teachers. Some scholars have inquired 'why art?' and its inclusivity to general education regarding the inclusion of autistic children. This question reflects on the values that visual art offers, regarding children's communication and collaboration, enhancement of skills and their engagement in ideas and visual art making experiences. In particular, Rogers (2010), (cited in Gerber and Kellman, 2010)

refers to the opportunities that visual art activities offer for social learning and language development. For instance, collaborative art activities, such as a mural in small groups, provide opportunities for practicing eye contact, sharing of materials and turn taking. However, what is also most important for autistics is the visual way of learning that can be efficiently implemented through visual art teaching, because they have an acute visual apprehension and their way of thinking is principally characterised as visual (Ozonoff, 1998; Hermelin, 2001).

Riley (1997) explains that art images constitute a kind of manifestation and a visual prolongation of thoughts and emotions. Human communication is dominated by words in society. Words are not only a means of exchanging information in everyday life, but also of expressing experiences and feelings. Yet some experiences and emotional states are beyond words. It is here that visual arts offer a way of overcoming the barriers in communication, such as limited speech, poor range of social communicative behaviours and possibilities for self-expression that autistic children experience.

On the other hand, lessons in visual arts include practical activities that children engage in with their hands, eyes and whole personality. Dubowski and Evans (2001) refer to the visual arts processes where teachers pay a primary attention to the sensation and knowledge that children experience using different materials. Therefore, the development of a new vocabulary referring to the use of materials for an art making experience can build an educational relationship between child and teacher and consequently their peers. These processes offer accordingly a share and exploration of social difficulties, through the use of these materials, the application of art techniques, the creation of images, paintings, dimensional models and constructions and finally discussion, if possible. Visual arts itself

includes the use of materials not primarily for the production of an aesthetic product by the child, but for the self-development and reflection of the child in the presence of the art teacher and his peers (EYFS, 2010). A stimulating learning environment gives the children the chance, in the early stage, to investigate the possibilities of a range of materials and processes, to try out tools and techniques and apply these to materials and processes, thus creating visual arts products, (ibid., Osborne, 2003).

Yet according to Guay (1995) the effective application of the above aspects so as to implement an efficient inclusive arts education for autistic young children relies on specific areas within an inclusive visual art classroom, which are: i) the notion of all children and specific autistics' strengths and abilities; ii) the consideration of an effective collaboration between general, special education and art teachers; iii) the structure of a visual instructive art environment, lessons and strategies, and finally iv) the consideration of teachers as learners alongside their children. These aspects can be regarded as indispensable provisions for providing effective visual art learning opportunities to autistic children and are further discussed in the following section.

1.4.2 Providing Effective Visual Arts Learning Opportunities for Young Children with Autism

For children at this early stage, a visual art activity is an enjoyable process and the same is true for young autistic children. Most of them are motivated to participate in art activities initially until sometimes to really engage in art activities especially when using a variety of materials provided to them. At this

time, they may feel confused and present symptoms such as fear of and hypersensitivity in art materials or imagination deficits (Gerber and Kellman, 2010). Additionally, as with all young children in the first steps of life, autistics may react egocentrically, lack awareness of their peers and their feelings, and refuse to share and co-operate due to the impairments in social interaction and communication (Frith, 2003). However, they have the potential to learn and communicate through art activities. According to Schirrmacher, (1995), when visual arts education emphasizes communication and adopts a social perspective, it helps children to learn about themselves and others around them, communicate about what they see, feel and think and become actively involved in a shaping and sharing environment such as the art classroom. Thus, there is no reason for teachers to assume that these symptoms exclude children from visual art activities and so the children are unable to proceed. Certainly, these symptoms exist and differ in severity. However, it is the teacher and special needs teacher's crucial roles that should provide such effective and modified learning opportunities for them to participate in visual art activities with their peers (Martin, 2009; Furnish, 2009). The important aspects that teachers should first take into consideration before introducing young autistic children to visual arts are the organisation of lessons according to specific strategies and the implementation of successful participation into lessons.

First of all, general, special needs and art teachers need to work in partnership so as to observe, record and understand the unique strengths and weaknesses of their autistic children, before planning their art lessons and strategies. Thereinafter, this information regarding the abilities of children will be used as an early intervention to reinforce each child's learning potential and participation and a

learning environment where expectations and responsibilities on behalf of children are continuously encouraged by their teachers (Gerber and Guay, 2006; Gerber and Kellman, 2010).

Secondly, special education teachers or art educators are needed to interact with and provide support for generalist teachers so as to achieve the necessary modifications to the curriculum within art classrooms. It is recommended that art educators and special needs teachers work as partners, planning and sharing information so as to prevent the negative experiences of autistic children (ibid., DfES, 2003; Johns, 2006; Gerber, 2011). Guay (2010), (cited in Gerber and Kellman, 2010) refers to the significance of succeeding respectful relationships among all teachers so as to enhance engagement and support of all children and above all develop advocacy in terms of planning, teaching and managing.

Additionally, the appropriate structure of the art classroom and thus of teaching strategies and lessons are the most important aspects following autistic children's needs and abilities recognition and teacher collaboration. When teachers organise their classroom, children's independence and participation in learning processes are improved. As has been previously referred to, most autistic children are visual thinkers and learners (Ozonoff, 1998; Hermelin, 2001). Therefore, an organised art environment that includes signs and labels of materials and equipment seems beneficial to autistic children (DfES, 2003; Gerber and Kellman, 2010; Gerber, 2011). In terms of lesson planning and effective strategies, a visual schedule or a visual task analysis plan of each lesson helps children to follow the art making process step by step and make it easier for them to follow and understand transitions during a lesson (ibid.). Regarding their impairments in communication and social interaction, organising the art lessons in small groups or working into

pairs or groups of four children might promote encouragement to help each other and maintain give and take possibilities. As Stuart et al (1995) have stressed, cooperation between autistic children and their peers is encouraged within small groups, combined with teaching strategies to facilitate reciprocal social interactions, such as eye contact, sharing and turn taking interactions.

Finally, teachers' roles and specifically their roles as co-learners alongside their students are of great significance and impact on teaching visual arts to autistic children. In the last decade, the role of teacher as instructor rather than facilitator predominates in the field of early years art education (Ji- Hi Bae, 2004; Loomis et al, 2007; Brown and Deans, 2008; Tarr, 2008; Eckhoff, 2008; Burkitt et al, 2010; McArdle and Wong; 2010). Since early years is the stage where visual art can be in the core of the curriculum, children with autism at this age can be effectively included in the mainstream school setting, through activities that comprise visual art, under the constructive teaching approaches of the teachers. Guay and Gerber (2006) specifically characterise the contemporary role of the teacher as a co-learner and mentor that provides children with a valuable interaction process of knowledge and skills.

CHAPTER TWO

RESEARCH METHODOLOGY

2.0 Introduction

In this chapter, I describe and justify the choice of the methodology and design of the research. Firstly, I state the aims and the final research questions, reporting on the slight changes that took place during the span of the research and presenting the initial research questions as well. In the following section, I discuss the rationale behind the selection of methodology and Elliott's model (1991) and report on the main characteristics of action research. Next, I present the design of the research, describing in some details the location, participants, researcher's role and responsibilities and the research cycles defining the present action research. This section concludes by raising the ethical considerations and addressing the issues of validity and reliability underpinning this research. In the final sections I discuss the data collection instruments and the method used to analyse the data. I also draw my issues about the selection of Vygotsky's (1978) developmental constructivism and Engeström's et al. (1999) "Activity Theory" as a theoretical model and my reflective and thematic approaches for analysing and interpreting the intervention's data as a whole.

2.1 Aims and Research Questions

This research aimed to develop, implement and evaluate the effectiveness of a visual arts curriculum unit for children with autism, aged 4 to 7 years, within an inclusive reception unit in Greece. The visual arts curriculum content consisted

of a story, the traditional art medium of plasticine and stop-motion application of the iPad, presented over four sessions. The curriculum unit investigation aimed (i) to enhance children's social interaction skills and (ii) to bolster task engagement through digital storytelling and animation as a product of a team work. The initial research questions that were formulated at the beginning of the research were as follows:

1. What kind of art-based curriculum experiences do children with autism already have in this reception unit?
2. How do their teachers understand aims, methods and outcomes for art lessons?
3. What kind of art-based intervention might facilitate these children's communication and social interaction with their peers and teachers?
4. How should it be designed, implemented and evaluated?
5. Is collaborative action research an effective way of implementing this kind of curriculum change?

During the span of the research, some modifications to the initial research questions took place. This happened after the diagnostic cycle of action research; when I observed and recorded specific aspects of the autistic children's behaviour while participating in the visual arts activities the teachers had designed and after I had revisited the literature on the visual arts education, inclusion and autism. At the point when I was in the process of developing and designing the experimental visual arts curriculum intervention, I refined and revised the original research questions regarding curriculum terms and reduced them in number.

The broad question formulated was:

1. What changes, if any, are needed in early years art education in Greece to make it more inclusive of children with autism?

The specific research questions were:

2. What is the effect of the current art curriculum in the reception class of the Primary school in county of Achaia in Greece on the autistic children's social interaction and task participation with peers and teachers?
3. Could a visual arts curriculum unit, that involves a story line, the medium of plasticine and the stop-motion animation with an iPad, be effective in enhancing the social interaction and task participation of young children with autism and if so, in what ways?
4. Is collaborative action research an effective way to implement this kind of visual arts curriculum development in early years education in Greece?

2.2. Rationale and Methodology

“Every art and every inquiry, and similarly every action and pursuit are thought to aim at some good; and for this reason, the good has rightly been declared to be that at which all things aim.”

(Aristotle, Nicomachean Ethics, 1094a)

According to Aristotle (Nicomachean Ethics; Ross, 1999) the most significant virtue of a human being is knowledge, which can be achieved within the three intellectual virtues of “*episteme*” the scientific knowledge, “*techne*” the productive actions and “*phronesis*” the ethical virtues that all seek the concept of truth. That is to say, that since classical Greek time, the power of knowledge and

wisdom, the sublime of all human virtues, leads to a continuous inquiry about the phenomena that occur in humans' lives regarding their behaviours and actions in order to seek the truth and the impact of these actions to general society.

Aristotle's theory constitutes the philosophical basis for further research and application of science in the modern time of philosophy and inquiry. However, science as a method of inquiry, which seeks to investigate the phenomena that have occurred in the world has passed through progressive stages and principles. In modern philosophy, science rises as a method of inquiry, where specifically proven knowledge through systematic and organised observation and collection of facts from social matters leads to the scientific knowledge as it happens within the inductive theory and interpretivism (Chalmers, 1999).

Furthermore Seale (2004) refers to Weber as *the founder of interpretive social science*, (Seale 2004, p.13) and impresses the significance of subjective meaning; human beings and their actions constitute both the subject and the object of a social research. According to Carr and Kemmis (1986) the interpretive paradigm has begun to attract extensive support. This occurs because of the endeavour of interpretivism to explore the social world and acknowledging the individual as a subject who has agency. Additionally, Carr and Kemmis (1986) refer to the understanding of social situations within the interpretive paradigm; the endeavour of interpretivism is to explore the social world and individuals' actions by giving illuminative perceptions and recognising people as subjects in the research process.

Research is generally characterised as an intentionally undertaken process arriving at answers through a rigorous and systematic procedure, within which the pursuit of truth is essential and the outcomes are open to public scrutiny

(Cohen et al., 2007). For interpretive social theory, grasping the meaning that the individual assigns to actions that are associated with social situations is a vital element; the meanings of people's actions are associated with people's understandings, purposes, intentions as well as interpretations of the significance of the context of their actions. Consequently, the interpretive paradigm intends to uncover and analyse these meanings and significances. When researchers explore and define social situations, in which they are engaged, problems or actions arise, that demand a dynamic resolution. Thus, according to Carr and Kemmis (1986), research scientists should try to invigorate their commitment with the social situation and their consciousness and awareness for participants' actions.

2.2.1 Educational Research

Pring (2000) states that educational research is a matter of social science inquiry and therefore should be investigated through the concepts of social science. Education itself constitutes a social community governed by rules and norms, with teachers establishing a connection between the world of public and the world of those being taught.

There is a universal need for research evidence in the field of education to positively influence its practice and policy. Education has been underpinned over the last decades as a field for academic research and teaching enquiry through universities (McCulloch and Richardson, 2000). Specifically, Hammerslay (2002) states that over the last decades the focus of educational research lies on the enlightenment of interdisciplinary aspects related to the general education framework, teaching context, improvement of curriculum and work of teachers,

policymaking and on a valuable and adequate educational guidance. However, after 1990s many scholars reviewed and criticized the focus and the quality of educational research and whether it provides useful and enlightening resources for the development of educational policy and practice.

The main point of discussion is whether educational research can provide solutions to problems that teachers and other professionals encounter in the field of education (Davies, 1999; Hammerslay, 2002; Elliot, 2007). Some scholars propose that educational research not only provides education practitioners with solutions, despite the existing difficulties, but also supplies evidence-based knowledge, deriving from tested and evaluated scientific research processes that leads to the development of policy and practice through enlightenment. This is an extension of Hargreaves's (1999) assertion that educational research should be characterised as a continuous investigating process that produces educational hypotheses to be further tested and evaluated before being applied into educational practice. Namely, the requirement for more experimental educational studies leading to decisive and cumulative research evidences about *what works* is according to Hargreaves (1999) essential for an improved utilization of educational research evidence from practitioners. The key question is whether the model of enlightenment is sufficient to achieve this goal or an actionable based research model is needed. Hargreaves (1999) supports the case of an engineering model appropriate for the dissemination of research evidence that imply exact solutions to the problems of practitioners. Specifically, he refers to the term evidence- based practice to emphasize the need of an extensive research in the form of disquisition, required according to the various concerns of

practitioners and conducted through experimental processes of analysing *what works* in practice. Hargreaves (1999) alleges that this methodology finally leads to useful answers that can be applied into practice and that kind of knowledge that “*serves as a supplement to, not a substitute for, the policy-maker’s existing knowledge*” (ibid, 1999, p. 246).

On the other hand, Elliott (2007) alleges that the basis of the term *what works* and the further experimental point of educational research, is the political control and that acknowledgement of this research process, may restrict the autonomy of teachers to deal with the unpredictable challenges they encounter within their field. Furthermore, he argues that the need for impactful educational research on policy and practice that takes into consideration the judgements of teachers-practitioners instead of unquestioningly adopting generalisations of evidence-based knowledge (ibid.). In the recent decades educational research seems to be dominated by the assumption that research must be ‘empirical in character’; when referring to educational institutions such as schools, and should aim to improve methods and processes (Elliot, 2007; Standish, 2007)

Additionally, Whitty (2006) emphasises that research which focuses on helping teachers to improve their practice needs to be more diverse than the rhetoric of *what works*. The writer argues that narrowly defined and constrained research ‘would actually be very limited as an evidence base for a teaching profession that is facing the huge 78 challenges of a rapidly changing world, where what works today may not work tomorrow’ (Whitty, 2006, p.162). He suggests therefore undertaking studies with different research questions regarding why something works and also why it works in some contexts and not in others.

It is clear that there is a pressing focus on accountability and ‘what works’ in education. Similar trends apply in special and inclusive education, which is the main area of focus of the current research. Special and inclusive education is considered an interpretive social situation where more actionable research can take place. A group of activities, such as curriculum development, professional development, school improvement interventions, systems planning and policy development can be implemented through different methods of planning, observing, acting and reflecting within an empirical process. The purpose of this study is to explore the potential effectiveness of a visual arts-based intervention in terms of socialisation, motivation and inclusion of young children with autism.

2.2.2 Action Research

Before the submission of the research proposal, I reviewed various qualitative methodologies for the execution of a school intervention. At the beginning of my search, I looked at qualitative methods in the field of education such as case studies. My initial hypothesis was that a case study might be a suitable method as it forms an in-depth study of an individual or a group of individuals in a real context (Simons, 2009; Robson, 2011). For my research the group of individuals are the teachers and children participants, the case represents the phenomenon or the situation I want to explore and explain in this particular educational setting, and the context represents the data external to the phenomenon that are necessary for the research to take place (Bondia and Gracia, 2021). Finally, I tried to develop the most effective methodology for intervention, curriculum development and implementation. My searches led me to review methodologies related to classroom settings and problem solving such as action research, rather

than a methodology that focuses on a particular phenomenon, such as case study. The case study methodology focuses on the description or exploration of a particular phenomenon, rather than identifying the cause and effect. Whereas, action research enables researchers not only to suggest appropriate lines of action but also to investigate their actual effects. I was attracted by the methodology of action research because it appeared to capture many characteristics that I perceive essential for this research, which are discussed further below. The most significant characteristic is that action research is an effective methodology for improving or changing practice (Carr and Kemmis, 1986; Elliot, 1991). Specifically, I considered the significance of the two interrelated aspects, mentioned by Bondia and Gracia (2021), attending to the purposes of action research in the educational context. Firstly, improving practice and understanding of classroom phenomena that can be generalised and serve to help others. Secondly, the professional development of teachers and the reflective movement. Because this research focused on early years school improvement intervention for the art curriculum and inclusion of young children with autism, this was a key factor for the selection of action research methodology.

In '*Becoming critical: Education, Knowledge and Action Research*' Carr and Kemmis (1986) have attempted to define action research as follows:

Action research is simply a form of self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their understanding of these practices, and the situations in which the practices are carried out (p.162).

As mentioned above, the inquiry of action research is an attempt undertaken by teachers-researchers (participants) to improve teaching and practice in their classrooms (social situations). This characteristic of action research allowed me to adopt both the roles of a teacher-researcher who identifies a problematic learning situation and one who involved in the improvement of a practice.

Kemmis and McTaggart (1982) expand on the action research definition by stating that:

Action research is a deliberate, solution-oriented investigation that is group or personally owned and conducted. It is characterized by spiralling cycles of problem identification, systematic data collection, reflection, analysis, data-driven action taken, and, finally, problem redefinition. The linking of the terms “action” and “research” highlights the essential features of this method: trying out ideas in practice as a means of increasing knowledge about and/or improving curriculum, teaching, and learning.

According to Kemmis and Mc Taggart (1982), “to do action research is to plan, act, observe and reflect more carefully, more systematically than one usually does in everyday life” Action research is characterised by cycles of problem identification, systematic collection of data, reflection, critical analysis and redefinition of the problem. The linking of the terms action and research constitute the most important characteristics of this methodology and renders the action as a form of disciplined inquiry, in which collaborative attempts are made to understand, improve and reform practice.

Lewin (1948) was the first to introduce the spiral of action steps, or cyclical procedure, of continuous improvement, “each of which is composed of a circle

of planning, action, and fact-finding about the result of the action.’’, (p. 206). According to Elliot (1991), Lewin’s (1948) model was a significant basis for understanding the involving and sequential action steps in an action research process. However, Elliott (1991) elaborated the spiral action steps including further important actions of fact-finding, implementation, analysis and reflection all constantly recur in the spiral of activities.

Furthermore Cunningham (2008) summarises the essential features of action research including the following:

- The researcher’s practice is the subject of the research.
- It is intended to achieve both action (in the form of data-driven change) and research (to develop an understanding that prompts ongoing change or improvement, and to add to what is known).
- It is cyclic, with later cycles used to challenge and refine the results of earlier cycles.
- It tends to be qualitative and participative.
- It requires critical self-reflection. The researcher regularly and systematically critiques what he or she is doing during the research process, leading to refined questions, action plans, and methods, as well as new understanding.

Regarding the above action research characteristics and specifically those of the cyclical procedure, the reflective practice and collaboration were key features through the entirety of the current research process (Elliott, 1991). The current research was qualitative in nature and took the form of action research defined as a set of actions conducted in a cyclical procedure of research conduct.

Specifically, I adopted the roles of a researcher and a teacher and the participating teachers collaborated to define the problem, plan the solution, act and observe and reflect upon further development (Somekh, 2006; Vogrin and Zuljan, 2009; Robson 2002).

According to Elliott (1991:69) action research involves ‘the study of a social situation with a view to improving the quality of action within it’. It is self-reflective enquiry undertaken by participants in social situations with the aim of understanding, improving or changing their own practices. The most fundamental characteristic of action research is its cyclical process. Researchers and practitioners design a series of self-reflecting cycles of action, including action steps of planning, acting, observing and reflecting, in order to improve practice. However, he supports that for practice improvement, researchers and practitioners must i) allow flexibility for change through planning; and ii) involve a continuing process of reflection.

I was attracted by Elliott (1991) and Mason’s (2005) understanding of action research as qualitative, practical, participatory, reflective and concerned with social change. I recognised that action research offered a continuous way to carry out a school intervention in the least intrusive way for teachers and young children. I also believed in the action research model, as a process where action in the classroom through a systematic, reflective approach addresses unmet needs in the visual arts teaching of both ‘typically’ developing and autistic young children. In keeping with Mason’s (2005) ideas about key features of action research, specifically practical, participatory and reflective aspects, I envisaged improving visual arts teaching in an early years school setting and eventually

improving practical skills and helping teachers to articulate curriculum development.

In terms of participatory aspect of action research, I believed that engaging teachers in a new approach to teaching and learning in visual arts would benefit areas of educational practice such as teaching, curriculum development, evaluation, and educational research. I was confident that action research across the early years school would involve everyone's input in a collaborative effort. Kemmis and Mc Taggart (1982) refer to action research as a co-operative and collaborative activity. They perceive it not as individualistic but as a group activity because the changes that occur during action research require a great sense of responsibility and critical exploration. These can be achieved easily by the efforts of a whole group. Somekh (2006) agrees that collaboration constitutes an essential component of action research and specifically mentions that in collaborative action research 'each side of the partnership should learn to respect the others' values and assumptions in participatory process' (p. 23).

Collaborative action research as a methodology has been valuable for this study and has also been beneficial for improving and changing visual arts educational practices in teaching young children with autism, for both myself as a researcher and teacher and participant teachers. I embraced the notion of action research that is undertaken by a group of teachers (Somekh, 2006; Cohen *et al.* 2007). In this case, the group consisted of myself the researcher and practicing teacher, the head teacher and the special education needs teachers of the target class where research was undertaken. This group worked collaboratively and the teachers helped me develop, try out and implement the visual arts-based intervention targeted at children with autism during the last two research cycles.

Consequently, the collective practice of the teachers had a significant effect on the methodology.

Finally, Mason (2005) suggests that reflection is a crucial element of action research and precisely in the creation of art; more specifically she mentions ‘we understand educational action research as a process with reflection at its centre; (p. 567). Since action research is a never-ending problem solving, conducted through a sequence of cycles, the reflective practice constitutes an integral aspect of the whole research process. Specifically, McMahon (1999) states that reflective practice takes place through part of the action research; the reflective practitioner of an action research goes through a set of steps that involve reflection. As a research practitioner, conducting action research through several specific distinct research cycles in a classroom setting, I considered and implemented both the processes of reflection in action and reflection on action so as to understand, improve and reform practice and research (Schon, 1983; Elliott, 199). Reflection in action took place in each research cycle and considered the definition of the problem, the planning of the solution, actions and observations. At the end of each research cycle, reflection on action was planned to understand the strengths and weaknesses of practical performance and conduct evaluation that would lead to further practical development. Yet, the reflection processes that took place within my research unit also constituted an outcome of a correlation between the studied literature and the new knowledge gained through practice. The reflection and thereafter evaluation at the end of each research cycle had an effect on the interpretation of new outcomes that were based on the initial studied theory (Gallais, 2008).

Overall, I was drawn to Kemmis and McTaggart's (1992:23) definition of action research as 'collective self-reflection' and 'collaborative teamwork'. I chose to adopt this process of action research which is similar to traditional research in terms of collecting and analysing data, developing research questions and reporting a conclusion. However, it differs from the traditional approach, 'as it is a process that integrates practical pursuit, theory and practice, and community-school-based participants to identify practical solutions about a concern' (Abdulayeva et al., 2019). Furthermore Messiou (2019) postulates that not only teacher collaboration and reflective practice can lead to actions but also the active participation of students enables further reflection and changes in established practices. She adds that through the process of collaborative action research teachers come closer in their ways of working, as well as in their ways of understanding one another. I felt that introducing a new visual arts curriculum unit, would likely involve participants teaching outside or beyond their existing practice. I also understood that providing reflective opportunities for teachers to individually and collectively consider new ideas in teaching practice and school curriculum development would be valuable. Like Abdulayeva et al. (2019), I recognised that through action research, teachers and researchers can obtain knowledge which can be applied directly to classrooms settings and provide new practices. Whereas through traditional research the aim is to obtain knowledge that is generalisable and develop educational theories, action research combines theory, practice and improvement of practices in classrooms (Elliott, 2013; Niemi, 2017). Niemi (2017) advocates that teachers often perceive that educational research or research-based education that inform theory, do not always connect to their everyday work and therefore action research has been

introduced to teachers and teacher-researchers and has been successfully applied and followed by them.

In the present research, I considered action research to pragmatically implement an inclusive intervention in a specific mainstream reception class, through improving visual arts practice that includes young children with autism. I reviewed examples of action researches applied in early years and inclusive school settings and studied action research projects that brought to light its potential as a means of promoting inclusion and providing practical methods for improvement through collaboration and collective action (Christ, 2018; Charalampous and Papademetriou, 2019; Messiou, 2019). Yet, in this research, the problem was initially identified by me and brought to the attention of the teachers. However, all participants worked together to resolve a problem they had not identified by themselves. Although, the action research was led by me with a group of participant teachers from the inclusive, mainstream reception class, we all finally had a shared goal of implementing a visual arts unit to facilitate young autistic children's social interaction and task participation. My own aim was to introducing teaching visual arts, combining traditional and contemporary art media to improve inclusion and participation. As a result, I concluded that the optimal action research approach should include two aspects simultaneously; one involving an action team (including me and the teachers participants), reflecting on, evaluating and interpreting data and the other, involving only myself following an overall reflection, interpretation, re-interpretation and evaluation of findings as lead researcher.

2.2.3 Limitations of Action Research

Action research is sometimes known for limitations such as generalizability and objectivity and a challenge for establishing reliability and validity (Cohen et al., 2011; Robson, 2011). In terms of generalizability the results derived from an action research process can only be applicable to the portion of the participants studied and the exact system (ibid.). I realised that my choice of methodology would involve problems of non-generalisability for other early years school contexts. Although I was aware of the limitation of generalisability that might arise as this current research was specific to a group of teachers and children participants, I envisaged the possibility of other teachers-researchers or teachers might benefit from the knowledge about whether this particular visual arts-based intervention worked or not in this particular early years school setting.

Another criticism of action research is its lack of objectivity (Robson, 2011). Specifically, Robson (2011) mentions that researcher, participant and/or practitioner bias may have an effect on research process and outcomes, when research is subjective. I felt that it was essential to follow a systematic collaboration between the researcher and the teachers through the whole process of action research regarding peer examination of data, during reflective group meetings, which helped to ensure objectivity and reduce any bias.

A challenge regarding the current research as for any research, was establishing the validity and reliability of findings. However, the systematic and rigorous approach to action research regarding both formative and summative reflective method and analysis of data, is established as a strength and not as a limitation of action research (Elliot, 1991; Cohen et al., 2011).

I considered all these limitations while carrying out this action research and soon I realised that specific limitation issues would arise and needed to be addressed regarding the current research. Thus, I took specific steps to overcome threads of limitations during all stages of the research such as design, methodology, data collection and data analysis. In keeping with Elliot's (1991) claim that action research provides unique opportunities to glimpse classroom practice from within and he claims this to be a strength of the methodology, I tried to adopt a rigorous, systematic approach in order to attempt to find meaning about what happens in all actions during all stages of data interpretation and analysis.

2.2.4 Selection of Elliott's Model

Regarding the plan of action, I decided to follow Elliott's model (1991) of action research, implementing a set of actions conducted in a cyclical procedure of research conduct (Figure 2.1). I adopted the action research method as a broad approach in terms of firstly defining and analysing a problem and then trying to change it by developing, trying out and evaluating a visual arts curriculum unit for young autistic children, as a whole. In parallel I followed Elliott's (1991) ideas on building a cyclical procedure of spiral activities and implementation of action steps. The cycles of the research shown in Figure 2.1 were as follows: i) defining and analysing the research problem; ii) developing a visual arts-based curriculum unit, iii) implementing and evaluating the curriculum unit formatively; and iv) testing the revised curriculum unit and evaluating it summatively. The final actions were to answer the research questions and make recommendations for future research and contribute to policy and practice.

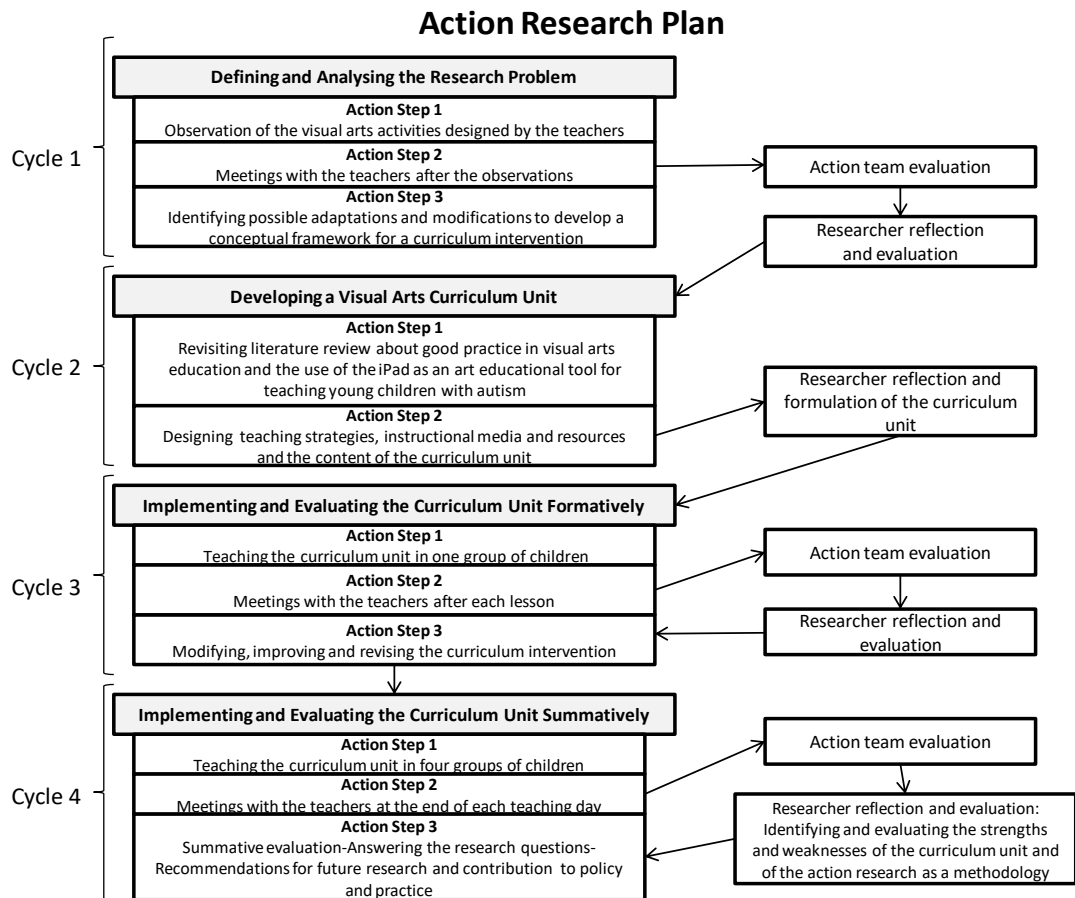


Figure 2.1 Action Research Plan (Adapted from Elliott’s Model, 1991)

2.3 Design of Research

2.3.1 Location

The action research was conducted in a public primary school in county of Achaia in Greece. It took place in an inclusive mainstream reception class. This particular school and reception class was selected primarily due to the fact that I worked there during the school year of September 2008 to June 2009, as a special education needs teacher. I experienced excellent teamwork with the head teacher and other teachers and we built up the feelings of trust and respect that are indispensable for an action research project. The head teacher has 17 years of

experience as a teacher in a mainstream inclusive reception unit. An additional reason for selecting this mainstream reception unit was the significant number of autistic children that attend. This particular reception unit is the only inclusive reception class in the study location, where both children with special educational needs and difficulties and the ‘typically’ developing may attend.

2.3.2 Participants and Action Team

A total of 8 children with autism, aged 4-7 years, participated in the study. These children with autistic spectrum disorders have been diagnosed as such by the Centre for Diagnosis, Assessment and Support in Greece. The main participants and focus of the research were these 8 children with autism. Although the 31 ‘typically’ developing peers (aged 4-6) were involved and participated in the lessons and social interactions, they were documented only when interacting with the targeted autistic children and the effect of the intervention on them was not evaluated.

Both children with autism and their ‘typically’ developing peers were chosen by the head teacher and special educational needs teachers. The head teacher and SEN teachers also decided upon the separation of the groups and which children would be placed in each group. Their decisions were made regarding all children’s skills and abilities and each group contained both boys and girls and children who were close friends and less familiar with each other. Table 3.1 provides some general information on the participants of the study. Each row represents the participants in each cycle and whether each child with autism was verbal or non-verbal.

All children participants with autism presented similar skills and abilities regarding communication, listening and attention, understanding and use of language. They also presented difficulties regarding their social skills and behaviour. They were all happy and smiley children who had settled well in the reception class. They were all able to approach familiar adults to communicate their needs using gestures, single words or pointing at objects, when they wanted or were motivated to. However, their expressive language was not always clear and found it difficult sometimes to understand and follow 2-3 key words instructions. Some of them such as Yannis, Kostas, Peter, and Rebecca were at the higher level of the spectrum, functioning at a higher cognitive level and presenting the difficulties associated with autism with less severity. They were able to use some functional language, forming sentences with 3-4 words as well as to follow basic instructions. The rest of the children with autism were quieter; specifically, Clare was non-verbal and they required more continuous adult support to access the curriculum and activities throughout the day. A visual timetable of the routine of the classroom was used by teachers and children to help them understand the programme of the day and regulate their behaviour when changing activities or routine. The arrangements that were currently in place and used by the teachers to support children with autism in the class were: modelling language to help them express their feelings or ask for objects by name and develop language, a visual timetable was used to allow them to make choices, one-to-one structured- adult led activities for developing cognitive learning and fine and gross motor skills and participation in small social skills group, for developing attention, social interaction and task participation.

The team consisted of myself, as the researcher, the head teacher and two early years teachers who were qualified in special education needs in this particular mainstream inclusive reception unit. Both the head teacher and two early years teachers have many years of experience teaching both ‘typically’ developing children and children with special educational needs and difficulties. They all have participated in seminars and training related to autism spectrum disorders and teaching young children with autism. The two special educational needs teachers also obtain Masters’ degrees in Special Education.

All participants (children and teachers) are referred to in this research by pseudo names to protect individual’s identity and ensure anonymity. Peter (a participant child with autism) was the only child with ASD participating in both research cycles three and four. This is because the sample of children with autism was small in this particular school during the two school years (2013-2015) that research cycles 3 and 4 took place. In research cycle 4 each child with autism participated in different groups and there was no interaction between them. As a result, Peter could not have affected other autistic children’s behaviour during the sessions. However, Peter’s participation in both research cycles may have affected the generalization of the findings.

| Participants | | | |
|---------------------|---|-------------------------------------|---------------------------|
| | Children with ASD | ‘Typically developing’ peers | Teachers |
| Cycle 1 | 4 children with autism Aris: verbal Akis: verbal Yiannis: verbal Kostas: verbal | 16 | 3 (Anna, Mary and Angela) |

| | | | |
|----------------|---|----|-------------------|
| Cycle 3 | 1 child with autism Peter: verbal | 3 | 2 (Anna and Mary) |
| Cycle 4 | 4 children with autism Peter: verbal Rebecca: verbal Clare: non-verbal Isabella: verbal | 12 | 2 (Anna and Mary) |

Table 2.1 Study participants per cycle

2.3.3 Ethical Considerations

Ethical considerations arise at the beginning of an enquiry and continue within the conduct of a research. Therefore, each researcher in the field of education should attain an underlying knowledge of good research practices considering the ethical principles that facilitate the freedom and self-determination of participants and accomplish their voluntary contribution and agreement to the research. Educational researchers should act ethically, following the ethical guidelines of their academic organization and consequently of the social science research community. Researchers must consider both the value of their research to the whole community and show respect to the participants. The current research was undertaken in a school setting and involved the participation of young children and their teachers. Ethical considerations were addressed throughout all stages of the study. Firstly, the study was approved by RU Ethics Committee and was carried out in accordance with the University's Ethics Guidelines (Appendices 1–2).

Participants involved in a research have the right to be fully informed, or as fully as possible, by the researcher about its scope and objectives (Parry and Mauthner

2004). Individuals involved, being observed, questioned or interviewed within the research conduct need to be treated according to ethical considerations and all the information that is given, allows them to make a fair estimation and finally voluntarily participate. Hence, it is of paramount importance for the researcher to obtain informed consent. Israel and Hay (2006) and Robson (2002) are in agreement that informed consent facilitates a participant's freedom, comprehension and voluntarily agreement. However, in the case of young children as participants within research, their parents or guardians should be asked to provide their consent. Regarding this current research, due to the researcher's participant observation of young children with autism and their 'typically' developing peers (aged 4–7), and their teachers, informed consent was obtained to assist the participant's autonomy and self-determination and to attain their voluntarily agreement. Official permission was obtained by the head and deputy head teachers of the school in which the research took place, the class teacher and the parents/guardians of the children, (Appendices 3-9), (Roehampton 2010 and BERA, 2004).

Furthermore, as this research involves young children with autism, who present difficulties with language and communication, further considerations were taken to ensure that they would understand the research aims and process and also have the right to withdraw anytime. I used clear language and visual aids in the form of images and objects to explain the process of the research and tasks/sessions and also ensured that the children understood that they could refuse to participate at any stage of the sessions. Additionally, the head teacher and the two SEN early years teachers who participated in the research informed me if the children appeared to show a negative reaction when engaging in the research activities. If

a child became distressed at any stage, I would stop the session and attempted to reassure and calm the child. If her distress was alleviated, I would ask one of the participant teachers to withdraw the child either from the session or the whole procedure, if necessary.

Appropriate behaviour was taken into consideration to avoid research misconduct, regarding confidentiality and integrity. There is a deontological position that places researchers on the condition that they maintain confidence attachments with the people involved in their research and should dignify their promises in order to avoid dissemination of personal information. According to Israel and Hay (2006) dissemination of information not only damages the conduct of the research but also places potential participants in a position that they do not trust researchers. Hence, methodological precautions were considered to assemble a strong and secure relationship between the researcher and those involved in the research. Specifically, there was no use of names and other personal means of identification of children and teachers and the anonymity was maintained by separating identifying information from the research data, once the data were prepared for analysis, (Roehampton 2010 and BERA, 2004). All participants (children and teachers) are referred to in this research by pseudo names to protect individual identity and ensure anonymity.

2.3.4 Validity and Reliability

Cohen et al (2011) emphasise the requirement to increase validity at all stages of a research project. Specific issues of validity needed to be addresses and applied regarding the current research. I took steps to overcome lack of validity during

the following stages of the research: design, methodology, data collection and data analysis.

First, the same content of the visual arts-based curriculum unit was used for all four groups of children. I maintained the consistency of the curriculum unit across groups by keeping all sessions and materials as identical as possible.

Secondly, I tried to maximise validity by choosing different tools, for data collection which consider the complexity of different human behaviours, such as video recordings with the use of two static cameras (research cycles 2 and 3), observation checklists and teachers' reflections. Findings from all sources of data were triangulated. The systematic use of lesson plan evaluations, video recordings, observation lists, and the reflecting step in meetings with the teachers at the end of each research cycle or following each lesson facilitated comparison, contrasting and cross checking of the findings.

Furthermore, in order to minimise any effect of children behaving differently or feeling uncomfortable while observed, the cameras were placed in discrete places out of direct contact of the studied children. These reactivity effects were also achieved by teaching the intervention to all groups of participants in their school, which was their familiar school environment. Additionally, a familiar adult was always involved in the sessions.

My priority in data analysis was to ensure its objectivity and accurate interpretation of data. The research questions guided my choice of data analysis and directed identification of coding patterns emerging in them. Data analysis was carried out in two ways, through reflective and thematic analyses of findings. Themes were identified to answer research questions specifically

related with the key variables. I chose a traditional method of data coding by hand (Cohen et al., 2011; Robson, 2011; Pitfield, 2011) and followed a coding process that used colour coded highlighters to code transcripts of video recordings, indicating patterns of the key variables (Appendix 16). The coding process applied by Pitfield (2011) in her action research project was selected. The systematic collaboration between the researcher and the teachers and the peer examination of data ensured the validity and contributed to reducing bias or subjectivity (Cohen et al., 2007; Punch, 2009).

In terms of reliability, consistency was a key attribute in this research.

Consistency refers to maintaining the same time frame of sessions, data collection tools, use of observation checklists after each session by the teachers, and having participants with similar characteristics, such as age and abilities in all research cycles. I verified the accuracy of data with the involvement of participating teachers via a triangulation approach, and by comparison of extracted data regarding their form and context. This was consistent in all research cycles.

2.3.5 Research Cycles

The research was organized into 4 research cycles in accordance with the principles of action research (Cohen et al., 2007; Elliot, 1991; Robson, 2002; Somekh 2006), of planning, acting, observing and reflecting on practical action. Specifically, the research cycles were: 1) defining and analysing the research problem; 2) developing the visual arts curriculum unit; 3) implementing and

evaluating the visual arts curriculum unit formatively; and 4) implementing and evaluating the revised visual arts curriculum unit summatively (Table 2.2).

| Cycles | Action steps | Methods of Data Collection | Participants | Time Frame |
|---|--|---|--|---------------------------------|
| Cycle 1: Defining and analysing the research problem | <ul style="list-style-type: none"> - Researcher observations of the visual arts lessons designed and taught by the teachers and of the free time activities. - Meetings with the teachers after the lessons' observations. - Evaluate the results for each lesson and activities -Identify possible adaptations and modifications to develop a visual arts-based intervention. | <ul style="list-style-type: none"> - Non participant observations - Unstructured observations - One static Camera on a tripod - Researcher Observation list (Appendix 10) | <ul style="list-style-type: none"> - The researcher - 4 Children with ASD - 16 'typically developing' peers - 3 teachers | September 2011- August 2012 |
| Cycle 2: Developing the visual arts curriculum unit | <ul style="list-style-type: none"> - Revisit literature review about good practice in visual arts education and the use of the iPad as an art educational tool for teaching young children with autism. | <ul style="list-style-type: none"> - Researcher's reflections on the data collection process. | <ul style="list-style-type: none"> - The researcher - 2 teachers | September 2012 – September 2013 |

| Cycles | Action steps | Methods of Data Collection | Participants | Time Frame |
|--|--|--|--|--------------------------------------|
| | <ul style="list-style-type: none"> - Design teaching strategies, instructional media and resources and the content of the curriculum unit. | | | |
| <p>Cycle 3: Implementing and evaluating the visual arts curriculum unit formatively</p> | <ul style="list-style-type: none"> - Teach the visual arts curriculum unit myself in one group of children. - Meetings with the teachers after each lesson. - Evaluate the results for each lesson and the whole curriculum unit. - Modify, improve and revise the visual arts intervention. | <ul style="list-style-type: none"> - Participant observations - Two static cameras on tripods - Teachers' observation list (Appendices 11 and 13) | <ul style="list-style-type: none"> - The researcher - 1 Child with ASD - 3 'typically developing' peers - 2 teachers | <p>October 2013 – September 2014</p> |
| <p>Cycle 4: Implementing and evaluating the revised visual arts curriculum unit summatively</p> | <ul style="list-style-type: none"> - Teach the visual arts curriculum unit myself in four groups of children. - Meetings with the teachers at | <ul style="list-style-type: none"> - Participant observations - Two static cameras on tripods - Teacher's observation list (Appendices 12 and 13) | <ul style="list-style-type: none"> - The researcher - 4 Children with ASD - 16 'typically developing' peers - 2 teachers | <p>October 2014– December 2015</p> |

| Cycles | Action steps | Methods of Data Collection | Participants | Time Frame |
|--------|---|----------------------------|--------------|------------|
| | <p>the end of each teaching day.</p> <ul style="list-style-type: none"> - Evaluate the results for each lesson and the whole curriculum unit. - Reflect on identify and evaluate the strengths and weaknesses of the curriculum unit and action research as a methodology. - Answer the research questions and make recommendations for future research and contribution to policy and practice. | | | |

Table 2.2: Research Cycles Process

The action research was negotiated with the school when I met the teachers in February 2011 and we agreed to seek a solution to the difficulties the autistic children had understanding and using verbal and non-verbal communication and interacting reciprocally with peers and teachers. We discussed the potential benefits of art education, not only as a creative outlet and enjoyable experience for children with autism, but also as a means for improving their life skills in

social interaction learning task engagement. One assumption, at the very early stage of this research, was that the inclusion of children with autism in group art activities with their peers would create bonds of trust and that they would show elements of interaction and engagement. Consequently, it was agreed in principle, to design and implement a well-planned visual arts-based intervention to enhance the autistic children's task participation and social interaction.

Before developing and planning the four research cycles I tried to develop a conceptual framework for the empirical research through researching autism and the theory and practice of art education. It involved a thorough analysis of theories about autism, communication and social interaction impairments, integrating children with autism in mainstream curricula and effective programming of art education in particular. My aim was to expand the current state of knowledge and research regarding: i) the communicative and social interaction impairments of children with autism; ii) educational methods of enabling these life skills for these children in an inclusive educational environment; iii) art curriculum practice as means of improving their social relations and core communication skills; and finally, iv) art education policy and practice in general. The study of art curricula in the first action research cycle included a comparison of the National Curriculum for Art and Design in England, for Key stage 1 (DfEE 2000), with the National Greek Curriculum for Early Years in Greece (FEK B'304/8.08.2003), and also the new art curriculum for children with autism assembled by the Pedagogical Institute of the Ministry of Education in Greece for the special primary school (Lampropoulou, 2003). The analysis of the National Curriculum for Art and Design in England is important due to the fact it specifies that modifications should be made across the

curriculum so that all students are given the chance to succeed. This is a first step towards the inclusion of special education children into mainstream art education. I anticipated that the analysis of this national curriculum would be of great help whilst considering what modifications are needed in Greece and ensuring that any new art-based intervention the action team developed could be integrated into the old one, whilst at the same time supporting art-based interventions of the kind that are helpful for young children with autism.

Cycle 1: Defining and Analysing the Research Problem

The aim of the first research cycle was to observe the autistic children's communication and social interaction behaviours with their peers and teachers. Their communicative strengths and limitations were analysed and specified individually, from studying their current performance and learning processes during art activities. The strengths and weaknesses of the Greek National Curriculum for Early Years (FEK B'304/8.08.2003) the teachers in this school were already following, along with regard to the provision of art learning for children with autism were assessed. The head teacher and two special needs teachers taught the reception unit in their normal way. I adopted the role of non-participant observer and observed six structured art lessons and four free time activities during the period of February 2012- April 2012 (Bryman, 2008; Cohen et al., 2007; Robson, 2002).

The data collection instruments were researcher observation and video recording, using a static camera on a tripod (Figure 2.2 Classroom Floorplan). My observations were focused on the behaviours of the children with autism when they participated in art lessons and how they interacted and communicated with

their peers and teachers during art making activities (Blachford, 2003). I used an observation list (Appendix 11) to record the observations and thereafter for the purposes of reflection and interpretation (Avgitidou, 2009). After the lesson observations two discussion meetings took place on the 20th and the 27th of March 2012 between the teachers and me, during which we watched the video recordings and focused on selected video extracts to recall events and achieve reflection and evaluation. During the discussion meetings with the teachers, I used an archival information sheet (Appendix 15a) for documenting the action team’s reflection and evaluation on the video recordings. All the data gathered from the video recorded sessions, the observation lists and the evaluative meetings with the teachers were analysed at the end of this research cycle.

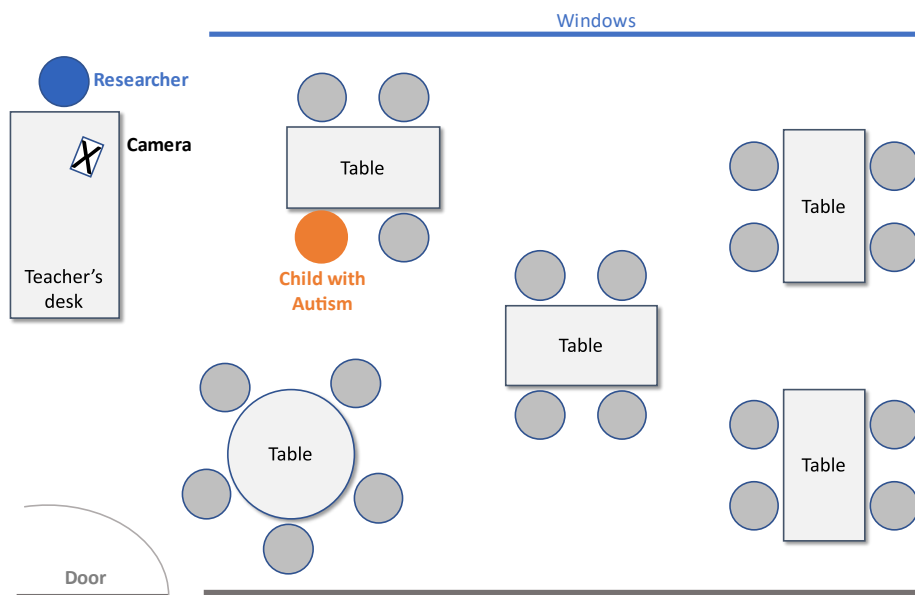


Figure 2.2 Classroom Floorplan (Research Cycle 1)

Cycle 2: Developing the Visual Arts Curriculum Unit

After undertaking the first research cycle related to the diagnosis and definition of the research problem, in combination with the analysis and interpretation of the data and findings, the head teacher, the SEN teacher and I considered the need for major changes. These changes were related to the rapidly changing field of Information and Communication Technology (ICT) in the early years, special education and visual arts education. Although there is a lack of published research studies in the field of special education needs and of children with ASD using new technological devices such as computers and tablets, there is a growing popularity among the special education needs community that recognizes the ICT tools as significant assistive devices.

Firstly, I revisited the UK and Greek National Curriculums for early childhood and concepts of visual arts education in the early years for both ‘typically’ developing and SEN groups of children. Then I tried to develop a conceptual framework for the use of ICT in the early years. Specifically, I studied the new Curriculum (2012) for the reception units in Greece which takes interest in art education and new technology in the field of early childhood. Finally, my research in theories and curriculums involved a thorough analysis of theories regarding ICT as a significant educational field that cultivates all the qualifications needed for children’s further social and educational inclusion and development.

After researching and reviewing relevant literature on curriculum planning, I designed a draft of a curriculum unit bearing in mind the needs of the children with autism. I tried to develop lesson activities that were suited to reception children and complied with the specific needs of both autistic and ‘typically’

developing children. My intention was to accommodate and address all issues in the learning and participating procedure.

The curriculum unit was introduced to the teachers in September 2013 before implementing it within research cycle two. During this meeting I discussed and explained to the teachers the content of the unit, including the learning objectives, teaching strategies and methodology.

Cycle 3: Implementing and Evaluating the Visual Arts Curriculum Unit Formatively

I adopted the role of participant observer and taught the visual arts intervention only in one group of children. My data collection instruments were researcher observation, an observation list and video recording of four sessions using two static cameras on tripods (Figure 2.3 Classroom Floorplan). I visited the reception classroom on the 21st of October 2013, where the head-teacher and the special needs teacher introduced me to the whole classroom and then indicated the first group of children that would follow me to the next classroom to begin with the sessions. Mary and Anna (the teachers) had chosen the groups of children in advance and had explained the process to them.

The first group consisted of 4 children (one autistic child and three ‘typically’ developing peers) selected by the head teacher. A special needs teacher was present in the classroom as an assistant and participant observer, using an observation list (Appendices 12 and 14). The children are referred to in this chapter by the pseudo names of Helen, Peter, Christos and Maria respectively

and one special needs teacher is named Mary. The process of teaching the intervention took place from the 21st to the 25th October 2013 (each session on different days) and lasted approximately 20–40 min each. The 4 sessions that I taught took place in a different classroom next to the inclusive reception unit.

Following each session, a discussion meeting took place each time between the teachers and the researcher. We watched the video recordings and focused on extracts to arouse recollection and achieve any reflection and evaluation needed to reform practices or make changes in the curriculum unit before teaching it again to the next group of children (Elliott, 1991). During the discussion meetings with the teachers, I used an archival information sheet (Appendix 15a) for documenting the action team’s reflection and evaluation on the video recordings. Finally, following the analysis of all these data, I modified and improved the curriculum materials and strategies and content and finalised the design of the unit.

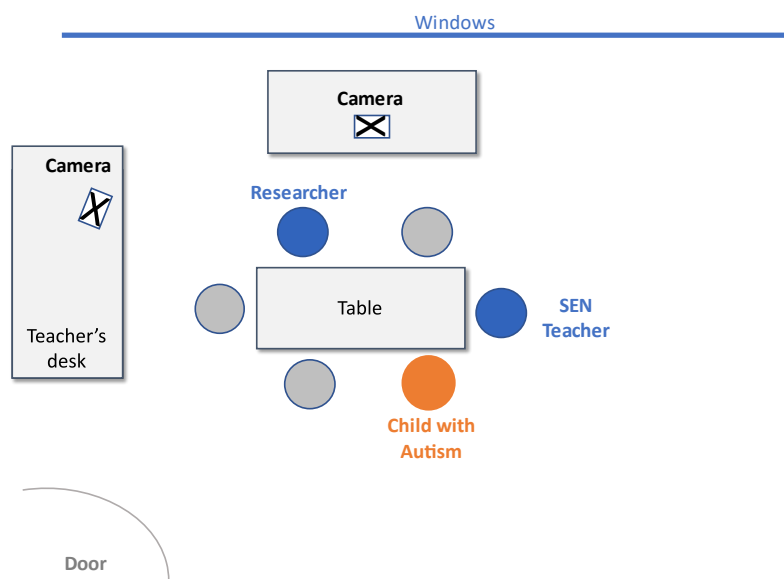


Figure 2.3 Classroom Floorplan (Research Cycles 3 and 4)

Cycle 4: Implementing and Evaluating the Visual Arts Curriculum Unit

Summatively

Research cycle three constituted a sequence of the actions from research cycle two, which was the trial of teaching the curriculum only in one group of children. The revised curriculum unit consisted of four sessions and was taught in four groups of children separately aged 4 to 7 (each group consisted of one autistic child and three 'typically' developing peers). The data collection of this cycle was implemented and completed in May 2015 at the mainstream inclusive reception unit in County of Achaia, in Greece.

The hypothesis of this research cycle was that when an early years teacher involves the use of an iPad in a visual arts teaching process and, in particular, in the form of a digital storytelling and stop-motion animation, then autistic children may display spontaneous interaction with their peers and task participation. So, the overall aims of this research phase were more specific and only focused on: i) the use of the iPad and stop-motion animation and ii) to create opportunities and test ways that could help the young autistic children to improve their social interaction skills and promote their participation on a level of sharing enjoyment with their peers or teachers.

I adopted the role of participant observer and taught the visual arts curriculum unit to all four groups of children. My data collection instruments were researcher observation, an observation list and video recording of all four sessions for each group using two static cameras on tripods (Figure 2.3 Classroom Floorplan). The headteacher, the special needs teacher and I agreed to

work together as the action team. The headteacher was present in the classroom acting as both an assistant and participant observer, using an observation list I had prepared (Appendices 13a and 14). All teachers and I agreed that the four sessions would be taught to all four groups of children consecutively over four different days (18th–21st May 2015).

At the end of each day, an evaluation meeting took place between the teachers and the researcher. We watched the video recordings and focused on extracts from the video recordings of the sessions to arouse recollection and achieve the reflection and evaluation which Elliott (1991) pointed out is necessary to reform any practice and lead to the summative evaluation and research findings. During each discussion meeting with the teachers, I used an archival information sheet (Appendix 15a) to document the action team's reflection and evaluation on the video recordings. Finally, I conducted the analysis and evaluation of all the data collected from the observations, video recordings, observation lists and evaluative meetings with the teachers. I reflected on them again in the light of the theories in the literature and I wrote the summative findings about the strengths and weaknesses of the visual arts curriculum unit and the use of action research as a methodology. The final reflection and evaluation of data in its entirety enabled me to answer the research questions and make recommendations for future research, policy and practice.

2.4 Data Collection Methods and Instruments

The use of various methodological devices such as classroom observation, observation lists and video recordings served for the systematic collection of data

by the team while the action was going on. The collaborative methodology had an effect on the analysis, evaluation and reflection upon the curriculum unit and defined the character of the whole research.

2.4.1 Observations

The method of observation was used in the current research to collect the data through all three research cycles, taking different forms involving both the teachers and me. Non-participant observations in cycle one and participant observations in cycles two and three, provided opportunities for gathering data regarding autistic children's social interaction and more specifically in 'give-and-take' and turn-taking activities, making eye-contact, verbal and non-verbal behaviours and incidents of task engagement, motivation and enjoyment.

Robson (2002) mentions that:

As the actions and behaviour of people are central aspects in virtually any enquiry, a natural and obvious technique is to watch what they do, to record this in some way and then to describe, analyse and interpret what we have observed, (p. 309).

In this study, observation constituted a significant method and was based on the theory that the main purpose of observers is to explore intensely and to analyse the phenomena that occur in the unit's life, by observing its environment and investigate how these phenomena and subject's actions affect others and the environment (Cohen at al., 2000; Robson, 2002). This also applies to Cohen's et al (2007) indication that observation is a way to "gather 'live' data from naturally

occurring social situations” (p. 396) and so it offers observers and researchers the opportunity to gather live data from natural social events. Thus, participant observation was regarded as a suitable method in regard to this research because it took place over an extended period of time and as a consequence the researcher can develop a good relationship with those being observed and therefore have better and more accurate results, while observing them in their natural environment (Cohen et al., 2000). Specifically, Taylor and Bogdan (1984) state that:

Participant observation is research that involves social interaction between the researcher and informants in the milieu of the latter, during which data are systematically and unobtrusively collected, (p.38).

Participant observation does require that the observers enter into the routine of the people or situation undergoing study, often for a rather extended period of time. The researchers need to become a participant in the culture or context being observed. The researcher also needs to become accepted as a participant in the culture or context being observed, in order to guarantee that the observations are of natural phenomenon (ibid.). It also serves as a method that focuses on the study of real-life contexts and social situations; specifically, it can be focused on an individual, a group or a setting (Berg, 2001; Greig et al., 2007; Punch, 2003; Robson, 2002; Silverman, 2010). For instance, education can be considered as a social situation whereby observations can take place. A group of phenomena such as students’ educational performance and their relationships with their peers and teachers, school improvement programmes, school systems planning as well as school policy development can be counted as phenomena for observational inquiry, within which researchers can plan, observe, act and reflect in a rigorous

and systematic way. This is an extension of Berg's (2010) assertion that observations can be viewed as an attempt by the researcher to investigate the social life of an individual or a setting and assess their further environment and behaviours that affect themselves and in general the society that they belong.

Furthermore, as aforementioned, the specific aspects that were observed regarding the behaviour and the actions of the participant autistic children were decided in advance so as to narrow the area of interest, achieve observational perspective and orientation and afterwards to follow a specific process of examination, convey explanations and elicit theories about the aspects that would have been observed during the procedure of interpretation of data (Mason, 2004; Silverman, 2010). Additionally, two observation lists (Appendices 11–14) including these aspects were designed to record the observations and be used afterwards for the purposes of reflection and interpretation of data (Avgitidou, 2009). The observation lists were designed based mainly on the assessment regarding communicative and social skills criteria based on the TEACCH Programme (Treatment and Education of Autistic and Communication Handicapped Children) and the National Greek Curriculum for children with autism.

2.4.2 Video Recordings

A second valuable method for collecting data during research cycles one, three and four was video recording using static cameras on tripods. Video recording has been used in qualitative research, 'aiming to capture and identify images of the truth which may be hidden' (Penn Edwards, 2012, p.150). Camic et al. (2003)

highlight the importance of using video recording in qualitative research, whilst it vitalizes the qualitative research projects by providing more profound quality, eliciting data. Specifically, when qualitative research involves the participation of children, visual recording methods can be useful in capturing live elements especially with those who find it difficult to engage (Noyes, 2004; Frith et al., 2005).

Regarding the use of the video recording, it was initially estimated that it would be conducted by myself (in cycle one) whilst the head teacher and one special needs teacher were teaching the reception unit in their normal way or one of the teachers (in cycles three and four) while I was teaching the curriculum unit. However, during our first meeting in February 2011 we all agreed that the full attention of all teachers was essential to teach, due to the fact that the children with autism require continuous guidance. Hence, a tripod for the use of video recordings was selected to be a more suitable method. The tripods were located in a precisely calculated spot in the classroom in order to record the autistic children's social interaction and specifically 'give-and-take' and turn-taking activities, making eye-contact, verbal and non-verbal behaviours and incidents of task engagement, motivation and enjoyment. Although the children were aware of the presence of the static cameras, their placement in the classroom was considered in advance so as to minimize any influence on them, but also have the chance to capture live elements and to look closely at specific behaviours of autistic children.

2.5 Data Analysis

According to Mills (2003) data analysis is “the attempt to fully and accurately summarize and represent the data that has been collected” (p. 116). Additionally, Merriam (1998) refers to data analysis as the “process of making sense and meaning from the data that constitute the finding of the study” (p. 178). In this study I embraced the above notions and followed an iterative procedure of data analysis cross-checking description and interpretation of data to rationalize the study findings. In order to interpret the collected data, I asked myself questions in every research cycle to better organise them and follow at the end a narrative, educational evaluation (Cohen et al., 2007). Specifically, after I evaluated each lesson, and the unit as a whole with the teachers in each cycle, I reassessed the curriculum unit. I organised, analysed and evaluated the data from each cycle, combining the findings for a final reflection and evaluation in order to answer the research questions. This allowed me to assess if the research design and the curriculum unit needed fine tuning during the research process.

In cycle one, I asked questions such as: i) ‘what kind of social interaction skills do autistic children develop within art activities and lessons?’ (And more specifically ‘do they develop ‘give-and-take’ and turn-taking interactions?’; ii) ‘what are their oral communication and conversation skills with peers and teachers?’ and finally iii) ‘do they enjoy the art lessons and are they on/off task?’. In cycle two, the action team considered the need for major changes with my main question being what changes are needed in early years art education in Greece to enhance inclusion of children with autism. In cycles three and four, my questions were: i) could an iPad tablet be an innovative tool in visual arts-based intervention and have a positive effect on both social interaction skills and task

participation of children with autism?'; and ii) how could children's social interaction skills be enhanced and share enjoyment, achievement and interest with their peers within the unit's lessons?'.

The process of data analysis and interpretation in each research cycle was: i) I explored the data (i.e., collected from observations, observation lists, video recordings, reflective and evaluative meetings with the teachers) by reviewing and contextualizing them; ii) coded data by segmenting according to research question and the aims in each research cycle; iii) developed summary description of the data; and finally iv) defined themes related to my research questions (see Appendices 13b and 15b, examples of SEN teacher observation completed form and video recording reflection notes/ coded and numbered).

The research questions influenced the study design and the instruments used to collect data. They also guided my choice of analysis method and directed me for the coding patterns emerging in the data. Data analysis was carried out through reflective and thematic analyses of findings, which involved my interpretation of data and analysis of findings in light of relevant literature, research and theories.

the various actions undertaken in the three planned cycles, I anticipated a considerable amount of data collected for analysis, as expected for any action research study (Cohen et al. 2000). The different data types were: i) data from researcher's observation checklists and video recordings of 6 sessions (research cycle 1), ii) data from SEN teacher's observation checklists and video recordings of four sessions (from two static cameras-in total eight video recordings- research cycle 3) and iii) data from SEN teacher's observation checklists and video recordings of four sessions (from two static cameras-in total 32 video

recordings- research cycle 4). Data refinement and consolidation was necessary early in this research including interpreted data from observations, video recordings, team reflection and evaluation, and my own overall reflections.

Video recordings were transferred computer folders, one per session and each consisting of two digital video files. Observation checklists from each session were scanned and also saved in the corresponding computer folder. Each session lasting approximately 30- 40 minutes was divided in one-minute periods. The aim was to look for the behaviours and actions of each child which were manually summarized in brief notes to derive the main themes for analysis. Specifically, coding of data from lesson observation lists (Appendix 13b- example of SEN teacher completed form), team meetings and record forms was carried out in three action steps (Appendix 15b-example of video recording reflection notes/ coded and numbered and Appendix 16).

‘Action step 1’ involved open coding of patterns emerging from data. Next, I numbered these patterns. In ‘action step 2’, I re-ordered these patterns into categories of similar ideas and gathered patterns under them. Then, I assigned colour codes to these categories. In ‘action step 3’ I determined themes that refined these ideas into overarching concepts related to the research question. These overarching concepts were used to identify themes for the final thematic analysis undertaken in Chapters seven and eight.

At the end I pooled all the data from every cycle and this facilitated reaching a final conclusion regarding the strengths and weaknesses of the visual arts curriculum unit as a whole. Upon data analysis and initial reflection.

2.5.1 “Activity Theory” Model of Theoretical Analysis of the Visual Arts

Curriculum Unit Effect

My approach of research, regarding observations and further analysis and study is initially based on Vygotsky’s (1978) developmental constructivism and “Activity Theory” (Figure 2.2 and further on Engeström (1987) and Engeström et al. (1999) second generation activity theory model (Figure 2.3).

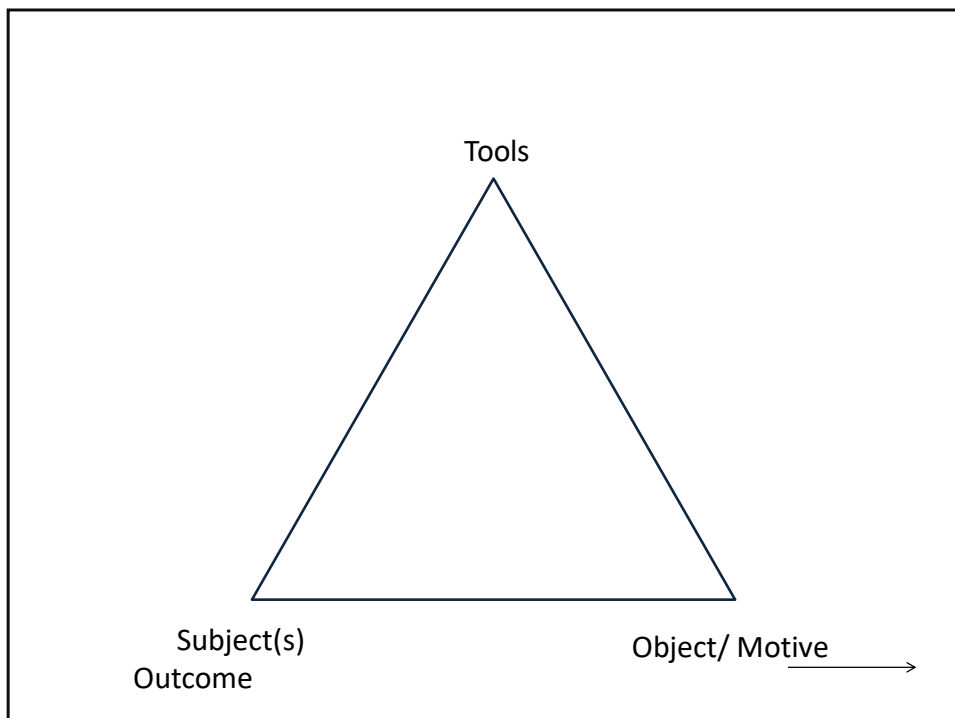


Figure 2.4: Vygotsky’s (1978) Activity Theory Model

According to Vygotsky’s theory (1978), the interaction between the human (the subject) and the world (the object) is mediated by tools and signs (Miettinen, Samra-Fredericks & Yanow, 2009). The work of Vygotsky refers to the concept of “activity” as a specific form of the social existence of humans, which is object oriented and tool-mediated. That means that a subject (a person or group) is driven by a motivation(s) to carry out an activity and during this process uses

tools (technologies, mental tools, language, etc.) to act upon an object (a person, group, or thing) to produce an outcome (Engestrom et al. 1999).

Thereinafter, Engestrom (1987, 1999) improved the development of the Activity Theory by expanding the basic Vygotskian triangle model (see Figure 2.2). He added the community, which is a space comprised of individuals working together, the division of labor that includes the negotiation and distribution of tasks and finally the rules and norms to the activity structure. Engestrom (1987) argues that there are both contradictions and bidirectional relationships between the components within activity systems; for instance, tools should not be regarded as given, as humans shape tools and tools shape behaviours. Thus, the expansion of the basic Vygotskian triangle leads to better analysis and interpretation of interactions with each other and thus actions and behaviours of subjects, objects, tools, rules and community can implicitly and explicitly be characterized by ambiguity and potential for change.

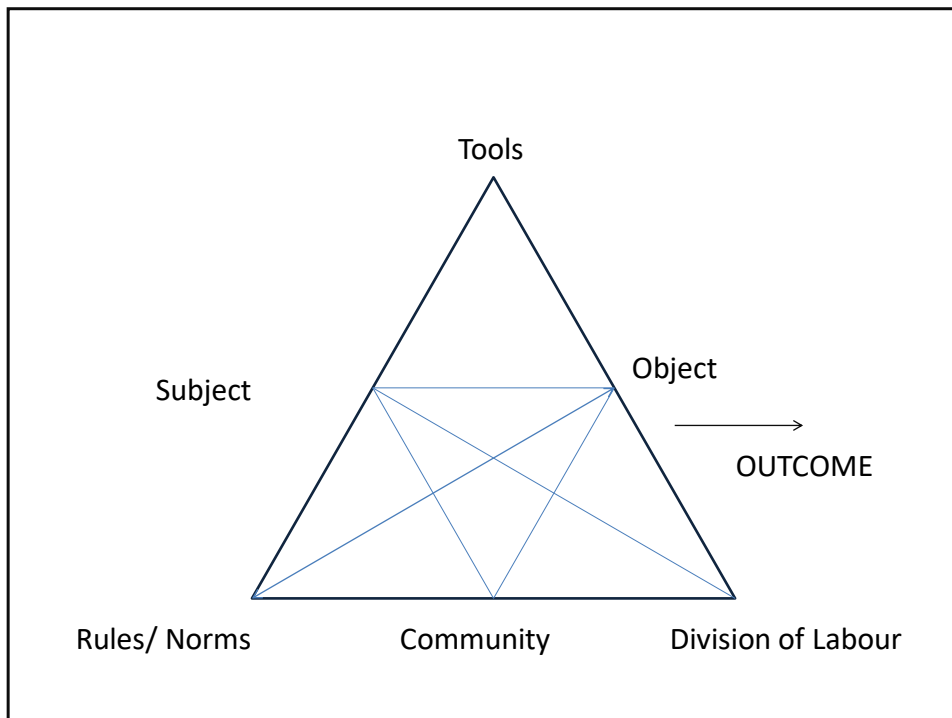


Figure 2.5: Engeström's (1999) Activity Theory System

In this research, Engeström's (1999) Activity Theory Model (see Figure 2.3) has been used as a mediation to measure the effect of all components to specific behaviours and actions of autistic children. Specifically in the present research, the new concept I have formulated from activity theory (Engeström, 1999) is the role of cultural tools (visual art, iPad and digital storytelling tasks) in mediating between subjects (in this case, children with autism, their peers and teachers) and the motive objects of their activity (learning development, social interaction and participation of the children with autism).

CHAPTER THREE

RESEARCH CYCLE ONE: DEFINING AND ANALYSING THE RESEARCH PROBLEM

3.0 Introduction and Aims

The conduct of this research cycle was particularly significant for me as a researcher to gain information about what occurred in the classroom and to decide what could be adapted, or supplemented. According to Elliott (1991) all teachers need to develop their practice in terms of adopting new techniques, information, materials and ideas so as to establish new curriculum materials and strategies. It was anticipated that the reflection on and evaluation of the data gathered in this cycle, would lead to the development of a visual arts-based intervention for the autistic children. My observations of the lessons and the subsequent meeting with the teachers brought out important issues related to visual arts development that the teachers had not considered before or even while observing the video recordings of the lessons.

The main aim of this cycle was to observe and record specific aspects of the autistic children's behaviour. The review of literature suggested that two main impairments account for the challenging social behaviour of autistic children. The two main deficit areas of social interaction and communication were understood to cause their unwillingness for social engagement with people around them (Frith, 2003; Wing, 1996). So autistic children need to participate in educational activities that afford them opportunities to learn how to engage in situations of social reciprocity and hopefully proceed to spontaneous interaction with their peers and teachers. An assumption underpinning this research is that

well designed classroom activities for autistic children could attend their attachment to and joint attention with ‘typically’ developing peers. They need to be encouraged to imitate their peers’ actions when the teacher gives group directions, through their engagement in give-and–take social interactions and turn-taking activities. This would constitute evidence that an activity has successfully stimulated social reciprocity and task engagement.

Specifically during my observations of the visual arts activities the teachers had designed, I focused my attention on: i) their social interaction skills (and more specifically on adult and child interaction, peer interaction and prompting interaction); ii) their oral communication and conversation skills with peers and teachers and finally iii) their levels of enjoyment and motivation (measured by the exact time that they were on/off task), underpinning all the following elements in Figure 3.1.

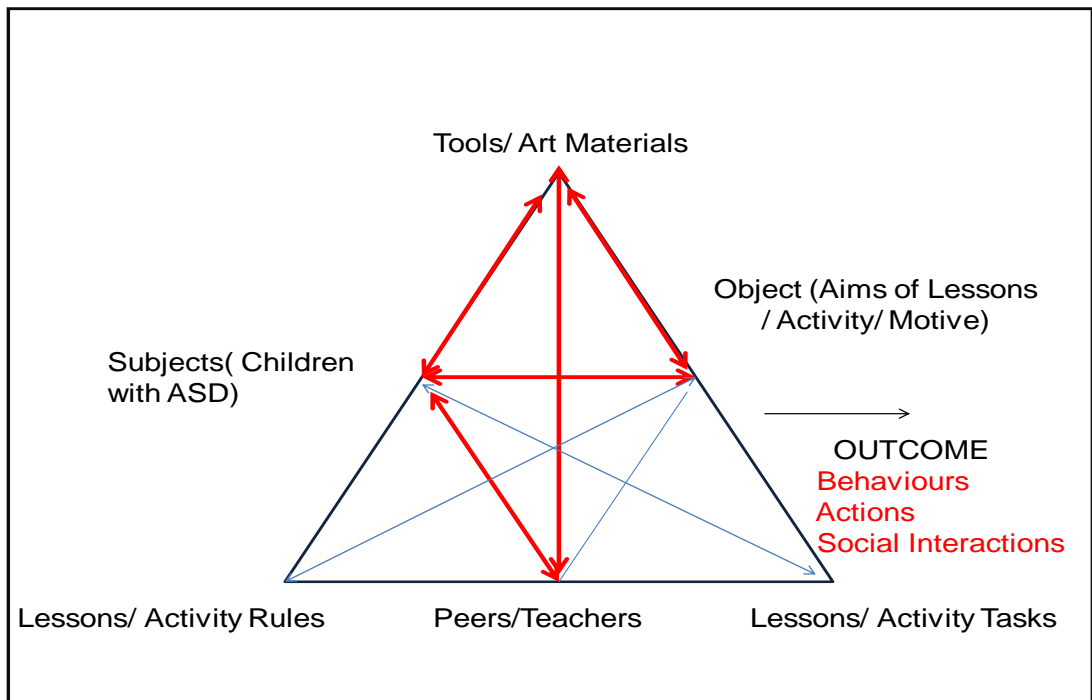


Figure 3.1 Analysis of Research Cycle's Three Activity System (Adapted from Engeström, 1999, Third Generation Activity Theory Model).

Additionally, I observed the children participating in unscheduled visual arts activities during free time. The aims in this case were: i) to record the same aspects of their behaviour, regarding their social engagement and communication with others and ii) to compare their behaviour during the two kinds of art activities. The impact of both formal and informal visual activities on all the above behaviours were analysed before I created and tested out a visual arts-based intervention in the next research cycle.

The visual arts activities in the formal curriculum were designed by the head teacher and two special needs teachers according to their usual practice. The mainstream inclusive reception unit employed a thematic approach to curriculum planning. Every week the teachers, in collaboration with the children chose a specific theme around which activities related to different cognitive subjects

were planned (Literacy, Maths, Physics and Study of the Environment) and Visual Arts.

3.1 Participants- Roles

3.1.1 Children and Teachers Participants

Four of the eight autistic children aged 5-6 years, who were included in the mainstream inclusive reception unit, were selected as the main focus for the observations in this research cycle. They had been diagnosed as autistic by the Centre for Diagnosis, Assessment and Support in Greece (KEDDY Organisation) and were selected, because they had better communicative and conversation and comprehension skills than the others, and better gross and fine motor skills.

Gross and fine motors skills are used extensively in most visual arts activities, such as painting and drawing for example when children use brushes or markers to draw and painting or scissors to cut our paper. In each lesson either one or two of the four autistic children were closely observed while they were working in a group with four others ‘typically’ developing peers. The target groups (one autistic child and four ‘typically’ developing peers) were selected for each lesson randomly by the teachers. The four autistic children are referred to in this chapter by the pseudo names of Kostas, Aris, Akis and Yiannis respectively; the head teacher is named Anna, one special needs teacher is named Mary and the other is named Angela.

3.1.2 Researcher

In this cycle of the research, I adopted the role of non-participant observer as specified by Bryman, 2008; Cohen et al., 2007, and Robson, 2002. My data collection instruments were researcher observation, an observation checklist (Appendix 11) and video recording of six lessons using a static camera. Official permission for the video recording was sought and obtained from the parents and guardians of the children and the teachers (Roehampton 2010 and BERA, 2004, Appendix). The six lesson observations took place between February 2012 and March 2012 and lasted 20- 40 minutes each. Following this, two meetings took place on 20th and 27th March respectively, between the teachers and myself (the researcher), when we discussed the lessons. At these meetings I showed them extracts from the video recordings, to arouse a recall and achieve reflection and evaluation.

3.2 Timetable

| Observations of Lessons designed and taught by the Teachers | | |
|--|--------------------------------|------------------------------|
| Lessons | Date | Target Child with ASD |
| Lesson 1 “The Winter” | 1 st February 2012 | Kostas |
| Lesson 2 “Animals and Birds of the North Pole” | 3 rd February 2012 | Kostas |
| Lesson 3 “Forest Animals” | 7 th February 2012 | Aris+ Akis |
| Lesson 4 “Carnival Celebration” | 21 st February 2012 | Yiannis |
| Lesson 5 “Farm Animals” | 6 th March 2012 | Yiannis |
| Lesson 6 “The Planetary System” | 13 th March 2012 | Aris |

Table 3.1: Timetable for Observations of Lessons designed and taught by the Teachers, Research Cycle One.

| Unstructured Observations of Free Time Activities | | |
|--|--------------------------------|------------------------------|
| Activities | Dates | Target Child with ASD |
| Activity 1 “Painting with tempera” | 16 th February 2012 | Aris |
| Activity 2 “Play Dough” | 8 th March 2012 | Akis |
| Activity 3 “Play Dough” | 12 th April 2012 | Yiannis |
| Activity 4 “Drawing with markers” | 3 rd May 2012 | Kostas |

Table 3.2: Timetable for Unstructured Observations of Free Time Activities, Research Cycle One.

3.3 The Learning Environment

The reception unit was divided into two areas: i) a conversation area (or conversation niche) and the ii) niches themselves organized as recommended in the formal National Curriculum (FEK B’304/8.08.2003). The conversation area, located on the right site of the unit, consisted of four small benches arranged in a square and a board set on the wall across the benches. It was used for assembling children so as to discuss their news and the theme for the day and to present and explain activities. The teacher assembled the children there several times during the school day. Next to and behind the conversation niche five small tables and chairs were arranged, where the children sat down in groups to work on structured tasks. They played with toys, and drew and painted there during their free time in the mornings and it was where they had their brunch.

More niches were set in a rest area next to each other by the wall. They included:

- i) a writing and mathematics niche constituting of one small table and two chairs where children could sit down in pairs in turn and write with pencils, markers and coloured pastels that had familiar words and numerals written on cards hanging on the wall; ii) a construction block niche, which had two big wooden boxes full of plastic and wooden construction blocks set on a square carpet; iii) a theatrical-puppet niche ; iv) a big dollhouse niche; v) a library and vi) a visual

arts niche. The latter contained an easel where children could paint using tempera and brushes (The paints and brushes were placed on the easel from time to time by the teachers but were stored out of their reach).

In addition to the niches, which the teachers had designed and organised at the beginning of the school year, there were shelves on the left side of the unit housing instructional toys and puzzles that the children could choose to play with alone or in groups, sitting at their tables. Visual arts materials including markers, pencils, A4 size papers, plasticine and puzzles and toys were placed within reach inside the classroom and the children were allowed to touch and use them when they wanted. Other materials such as scissors, tempera colours, clay, glues, recyclable materials and textiles for constructional use, and books and toys were out of reach and the children had to ask their teachers for them.

3.4 Description of Lessons

The lessons I observed all took place in the inclusive reception unit and lasted approximately 20-40 minutes each. The head teacher taught the class and the special needs teacher assisted the autistic children on a one- to -one basis. The children gathered at the “conversation niche” in the reception unit every morning before they began structured activities. Then they moved to the tables in groups to begin working on task. All the materials for the tasks were selected and provided by the teachers and each session’s aims were set by them as well.

3.4.1 Lesson 1, 1stFebruary, 30 min duration

Theme Title: The Winter

Materials: different coloured thin card, 20 A4 sheets of white paper, a large roll of blue paper, scissors, glue stick, cotton and salt

Aims: -To encourage elaboration with found materials (such as cotton wool, salt)

-To encourage collaborative learning and sharing of materials

-To create a class collage representing a village in winter

Target autistic child: Kostas

Teachers: Anna (Headteacher) and Mary (Special Needs Teacher)

After completing free time activities, Anna assembled the children around the conversation niche to show them the art materials, explain the activity and give a demonstration. Kostas followed his peers and sat down as well. Anna firstly explained that the children would be divided into 4 groups and that each group would make a part of the village (such as trees, houses, a school and a church, human figures and cars); and that once they finished, they would glue them onto a large, blue piece of paper. Next Anna showed the materials to the children; emphasizing the cotton wool and some children asked how they were supposed to use it. Specifically, Anna turned the question round and said: "*How do you think that cotton wool could be used?*" Many children suggested that they could glue it either on the trees or on the houses to represent snow. Anna agreed that this was a good idea. Kostas and many other children touched the cotton and repeated the word "cotton" many times.

Then, Anna demonstrated how they could make a tree. She drew a circle on green card and a rectangle on brown card representing a leaf and tree trunk respectively. Then she cut round the outlines and glued the circle shape to the edge of the rectangle. Finally, she glued salt flakes onto the circle to represent a snowy tree and showed the final product to the group children. Next, Anna divided the children into 4 groups and assigned each group a part of the village to make.

The target group's task was to create snowy trees using the card, scissors, salt and glue in the way Anna had demonstrated. The children sat at their tables and Anna gave them the materials. Then she approached each group in the room in turn, helping them and giving them more materials if necessary. Kostas followed his peers to the table but did not begin to draw a tree. After 2 minutes Anna approached the target group and said to Kostas: "*Kostas you must make a snowy tree*", but he still did not begin. After a few seconds Mary approached Kostas, stood behind his chair, put her hand on his and drew a circle and a rectangle on the green and brown cards respectively. Next, she held his hand to cut them out. Mary and Anna assisted the other children with autism in turn, because they needed support. Mary said to Kostas: "*Now Kostas you have to glue the circle to the edge of the rectangle and then glue salt onto the circle*". Kostas followed Mary's oral directions. He glued the salt onto the tree on his own and repeated the procedure several times. Mary praised him and said: "*Well done Kostas, your tree is very nice, do you want to make another one?*". Kostas said: "yes". The procedure was repeated in the same way and Kostas made another tree as well.

Finally, when all the children had completed their images, they glued the decorated, cut out forms onto the large roll of blue paper. Mary guided Kostas

verbally to imitate his peers. He glued the trees by himself onto the paper roll and followed Ann's directions about where to place them. Next, Anna, Mary and the children tidied up the room and put the art materials away. At the end, Anna praised the children and hung the final collage on the wall.

3.4.2 Lesson 2, 3rd February, 40 min duration

Theme Title: Winter - animals and birds of the North Pole

Materials: pencils, 21 pieces of white textile (20x30 cm each), a large roll of blue paper, scissors and glue stick

Aims: -To encourage elaboration with untried materials (such drawing on textile)

-To encourage collaborative learning

-To learn how to make drawings on fabric

Target autistic child: Kostas

Teachers: Anna (Head teacher) and Mary (Special Needs Teacher)

After completing free time activities, Anna assembled the children around the conversation niche to explain the task, and show them pictures of animals and birds from the North Pole and a penguin she had drawn in advance on a piece of white textile. Anna firstly showed the children pictures of the animals and the birds and asked them to name them and observe their characteristics. Then she explained that they would draw an animal or bird from the North Pole, on a piece of white fabric, cut round its outline and, once they had finished, glue them onto a large, blue piece of paper. Next, Anna showed them the penguin she had drawn

and demonstrated how to cut round the outline. After did this she glued it onto the blue roll of paper.

The children went to their tables and Anna gave them the materials. Kostas followed his peers, but he still did not have any white textile. After a few seconds Mary approached Kostas, gave him a piece of white textile, stood behind his chair, put her hand on his and drew a penguin. While this was happening, she said: *“This is the body and these are the legs of the penguin.”*, *“what is this Kostas?”*. Then Kostas answered: *“It’s a penguin”*. Thereinafter, Mary instructed him: *“Take the scissors in your hands and cut round the penguin’s outline”*. Kostas found it difficult to do this, so Mary repeated her order, and put her hand over his and cut out the outline. Kostas reacted by saying: *“Go away”*, and then he stood up and left his seat. Mary did not force him to complete the task. Meanwhile Anna approached each group in the room in turn, helping them draw and cut round the outlines of their animal or bird. The rest of the children constantly asked for help, complaining: *“It’s difficult to cut round the outline, Mrs Anna”* and Anna said: *“You must keep trying”*.

Finally, when all the children had completed their animals and birds, they glued the cut-out forms onto the blue roll paper. Next, Anna, and the children tidied up the room and put the art materials away. At the end, she praised the children and hung the final artwork on the wall.

3.4.3 Lesson 3, 7th February, 30 min duration

Theme Title: Forest animals

Materials: different coloured plasticine, a large roll of white paper, brown and green tempera paint, brushes, glue-sticks and pieces of sponge

Aims: -To learn how to use plasticine, tempera paint and brushes

-To encourage collaborative learning

-To create forest animals using plasticine

Target autistic children: Aris and Akis

Teachers: Anna (Head teacher) and Mary (Special Needs Teacher)

After returning to the classroom from break time, Anna assembled the children around the conversation niche to show them pictures of forest animals and the art materials, to explain the activity and give a practical demonstration. Aris and Akis followed their peers. Aris sat next to Anna and started playing with the brushes that she had placed on the floor, next to her seat and Akis sat next to his peers. Anna showed the pictures of the animals first and asked the children to name them. Then she explained that they would make a forest animal using plasticine. Next, she showed them pieces of coloured plasticine and chose to demonstrate how they could make a snake. She took a piece of green plasticine and modelled it in her hands creating a long wavy strip; after which she modelled two small balls and stuck them at the edge of the strip to represent the snake's eyes saying: "*This is a snake*". After that Anna asked each child which animal they would like to make and gave them a piece of coloured plasticine.

Next Anna showed them a large piece of white roll paper and explained that once they had made their animals, they would glue them onto the paper. She glued the snake she had made before onto the paper and said: *“What else is there in a forest?”*. Many children answered: *“trees”*. Anna said: *“Exactly”* and showed them the brown and green tempera paints, brushes and the sponges and started to demonstrate how to paint a tree. She placed the brown and green tempera paints into two different pots and painted a circle, using the sponge, and a rectangle, using a brush to form a leaf and the trunk of a tree respectively. At the same time Aris took a sponge, placed it in the pot of brown paint and painted on top of the roll paper. Mary approached him and held his hand so he could paint a tree and the rest of the children moved to their tables as Anna indicated. Mary guided Aris as well verbally instructing him to do the same and saying: *“Aris it’s time now to move to your table as your peers did and begin modelling your animal, once you have finished your animal, you will come back here to paint on the roll paper”*. Aris followed her and sat down on his seat.

When the children sat down to their tables Akis copied them. Aris and Akis both began modelling the plasticine trying to form snakes. After a few minutes Aris lost concentration, stopped working and grasped the plasticine of his peer sitting next to him. Mary intervened, saying: *“Aris this is not your plasticine, here is yours”* and placed her hand on his, manipulating his piece of plasticine to form a long strip. Then he continued moulding the snake on his own. Next Mary took Akis’s plasticine to mould it in her hands to make it softer and demonstrated how he could model it into the shape of a snake. Then Akis completed it. At the end Mary put her hand on top of theirs, guided them to roll out small plasticine balls and placed them at one end of the snake shapes to represent eyes.

Once all the children had finished their animals, they got up and walked round the big roll of white paper, which was placed on the floor in the conversation niche. Both Aris and Akis followed their peers. Anna gave them glue, placed several brushes in the brown and green paint pots and directed them to paint the trees and glue their animals on the roll. Akis glued his snake onto the paper following Mary's verbal instructions, but after that he went away. Next Mary put her hand on Aris's to guide him to glue his snake on and paint a tree. At the end Anna and Mary praised all the children and indicated they should get ready for ending the school day. Anna tidied up and put away the art materials.

3.4.4 Lesson 4, 21st February, 40 min duration

Theme Title: Carnival Celebration

Materials: Two large rolls of white paper, different coloured tempera paints and brushes

Aims: - To learn how to paint using tempera paint and brushes

-To encourage collaborative learning and sharing of materials

Target autistic child: Yiannis

Teachers: Anna (Headteacher) and Mary (Special Needs Teacher)

After completing free time, Anna assembled the children around the conversation niche to explain the task, show them the art materials and give a demonstration.

Yiannis followed his peers and sat down to the conversation niche following

Mary's oral instructions. Anna explained that they would be divided into 2 groups and each group would paint a carnival figure on a large piece of paper. Then she described gave them information about the carnival celebration, what people usually do around this period of time and the costumes they wear. The children shared ideas about common carnival costumes. Then Anna separated the girls and the boys into two groups and they elected decided to paint a princess and clown respectively.

Next Anna instructed one boy and one girl to lie down on the two large pieces of paper and outlined their bodies with a blue marker. After, she filled in some details like facial features, shoes, hats and some balloons. She showed them the tempera paints and brushes and demonstrated how they could use them to colour in the figures. She filled some pots with basic colours and made some secondary colours in other pots. At the end she placed the two rolls of paper on the floor in different parts of the classroom with pots of the tempera paint around them and indicated to the two groups they should begin the task.

Mary prompted Yiannis to follow his peers and sit on the floor to begin painting the clown. Then she said: *"Take the brush and paint the nose of the clown red"*. She praised him and showed him another part of the figure to paint. Yiannis followed her direction and Mary left to support other autistic children. But Yiannis just stopped painting and waited holding his brush. Mary came over to him again and prompted him to paint a different part. The rest children of the group painted away. Once they had finished, they washed their hands and gathered again around the conversation niche. Yiannis followed his peers without needing Mary's verbal instruction. At the end Anna and Mary praised all the

children and tidied up the materials. The following day, Anna hung the works on the wall.

3.4.5 Lesson 5, 6th March, 40 min duration

Theme Title: Farm animals

Materials: coloured markers, 20 white papers (15x20 cm each), a large roll of white paper, scissors, glue sticks

Aims: -To encourage collaborative learning and sharing materials

-To learn how to paint farm animals

-To create a collage of a farm

Target autistic child: Yiannis

Teachers: Anna (Headteacher) and Mary (Special Needs Teacher)

After completing free time, Anna assembled the children around the conversation niche to explain the task, show them pictures of farm animals and the art materials and give a demonstration. Yiannis followed his peers and sat down in the conversation niche after Mary's verbal instruction. Anna firstly showed them pictures of farm animals and asked the children to name them and observe their characteristics. After that Anna explained that they would use coloured markers to draw their animals and once they would all finish, would cut round the outline and glue it onto the piece of roll paper, she had placed in front of her on the floor. Next, she asked each child which animal they would like to make and gave them a piece of white paper. She asked Yiannis which animal would like to draw, and

choose one from the pictures, but he did not respond. Then she suggested him to draw a little pig saying: *“I will draw this pig on this paper for you and you can fill it in with pink colour, you will cut its line and glue it onto the roll paper”*.

Anna also asked them what else they could draw apart from animals and they suggested tractors and farmers. After instructing a few children to begin she demonstrated how to draw a farmer and a tractor using coloured markers on white paper, and showed them the results saying: *“I believe you can draw them better than I did”*.

Next Anna placed one pot of coloured markers on each table, and the children sat down and began the task. Mary prompted Yiannis to follow his peers. She sat at his table as well and then she went to support other children with autism. Yiannis did not begin colouring the pig and after a few seconds Anna approached him and said: *“Colour your pig using the pink marker”*. She gave him a pink marker and drew away. Yiannis started colouring holding the marker first with his left and then with his right hand. Mary approached, stood behind him and said:

“Hold the marker properly”; then she put her hand over his, guided him to hold the marker properly for a few seconds and drew away again. Yiannis continued holding the marker as before. When Mary approached him again, he had already finished colouring and she asked him: *“What did you colour?”*; His answer was answered: *“A pink pig”*. Mary praised him, gave him a brown marker this time and said: *“Let’s colour a puddle underneath the pig using the brown marker now”*. She put her hand on his and coloured a puddle. Once they had finished colouring, Mary gave him a pair of scissors and held his hand while he cut it out. At the end she prompted him to move over to the roll paper placed on the floor around the edges of the conversation niche and glue on his drawing. The rest of

the children had already done this, Yiannis did the same on his own following Mary's verbal instruction and immediately moved away. The children tidied up the markers and the scissors and Anna hanged the work on the wall.

3.4.6 Lesson 6, 13th March, 20 min duration

Theme Title: The Planetary System

Materials: 20 small polystyrene balls, 20 A4 size white paper, different coloured tempera paint and brushes

Aims: -To encourage manipulation of media and found materials (such as painting onto polystyrene)

-To encourage collaborative learning and sharing materials

Target autistic child: Aris

Teachers: Anna (Headteacher) and Mary (Special Needs Teacher)

When free time ended, Anna assembled the children around the conversation niche to discuss the about the planetary system, explain the activity, and show them the materials. Mary tried to prompt Aris to copy his peers but he refused to move to the conversation niche. Anna firstly showed them a big picture of the planetary system and asked to name any planets they knew and observe the colours on them. Next, she explained she was going to get them to paint polystyrene balls to represent planets and showed them the balls and tempera paints. This time Aris did go over to the conversation niche, and he sat down close to Anna and held a ball. She placed some primary colours in different pots

and mixed some others in other pots. Before she mixed each one, she asked the children: *“What colours should I mix to create orange, green, purple and brown colours?”* They gave the correct answers for orange and green.

Once Anna finished with the demonstration, she gave the children the polystyrene balls, placed the tempera paints, brushes and the white paper to put underneath painted balls on tables and the children sat down. Aris followed his peers and sat down as well but did not begin the task at once. Mary approached and told Nikos (Aris’ peer, sitting opposite to him) to give Aris the brush after finishing his work, because there were none on the table for Aris. Next Nikos gave the brush to Aris and he started painting the polystyrene ball in front of him with blue tempera paint. Mary said to him: *“This is blue colour you are using”*. Anna approached as well, said: *“Nikos help Aris and paint the polystyrene ball together”* and gave him an extra brush. Once Aris and Nikos had finished painting, Aris began to paint his palms, then made handprints on the white paper. Anna noticed and said to Mary: *“Let him do some prints”*. Nikos imitated him and made handprints on the same paper as well. Once they had finished, they washed their hand. Anna collected the balls, placed them on a large piece of paper to dry and tidied up the tables, tempera paints and brushes.

At the end of the school day, when the painted balls were dry, Anna assembled the children around the conversation niche once again. Aris refused to follow his peers after Mary’s verbal instruction. The head teacher showed the children the ready-painted balls, then she created a “planetary system” by connecting them with a piece of wire and tied it to the ceiling.

3.5 Description of Free Activities

The children arrived at the reception unit between 8.00 and 8.15 in the morning. They worked freely at the different niches available in the reception unit until 9.00, in the way the national curriculum in Greece recommends for public reception public units, (FEK B'304/8.08.2003), during their leisure and before the beginning of the programme of the school day. As all the children in the reception unit usually chose to work at niches for some time after their arrival, the teachers usually tried to persuade autistic children to choose one and spend 10 -20 minutes there, before their 10-15 min individual programme and the beginning of the structured programme of the school day. Each child with autism had an individual programme of instruction every day delivered to them on a one-to-one basis by the special needs teacher that began in the first one hour of morning free. The main aim of the individual programme was to develop the autistic children's cognitive and general behavioural skills (verbal communication, social interaction, imagination). Occasionally it included visual arts activities such as painting, drawing or construction.

The autistic children engaged in the following art-based activities seemed to enjoy the following activities most construction blocks, the dollhouse, painting using tempera, brushes or markers and plasticine. Four unstructured observations took place on 16th February, 8th March, 12th April and 3rd May 2012 respectively, in the reception unit during the first hour of the school day lasting for 5-10 minutes each approximately. During that time most of the autistic children chose to work in one or other niche, including the visual art niche. With regard to visual art activities the autistic children engaged in easel painting, drawing and

plasticine construction. Either Mary or Angela approached and supported them as required.

3.5.1 Activity 1: Painting with tempera paint, 16th February, 10 min duration

Target child: Aris- Interaction with Mary

Aris moved towards the easel after a few minutes of his arrival in the classroom in the morning. Anna had already refilled the pots with tempera paints, and placed clean brushes and two large white roll paper pieces on both sides of the easel. Aris put on an apron on his own and started stirring the blue paint with a brush. Mary approached him, put her hand on his holding the brush and started painting. Then Mary drew away and Aris continued painting, creating lines and shapes out of blue, orange, yellow and green tempera paints. When he finished painting, he followed Mary to begin his individual lesson.

3.5.2 Activity 2: Play dough, 8th March, 10 min duration

Target child: Akis- Interaction with Mary

That morning Akis joined a group of children occupied with play dough. Anna gave them different colours of dough and some animal forms. Akis sat at the table and picked up a piece of orange play dough. He picked up a cat form and placed it on top of the play dough and pushed it into the dough surface. He repeated the same procedure using other forms as well. At the end he put the used play dough back into the pot and followed Mary to begin his individual lesson.

3.5.3 Activity 3: Play dough, 12th April, 10 min duration

Target child: Yiannis- Interaction with Angela

Some of the children asked Anna if they could have some play dough during their free time in the morning. Anna gave them blue and orange coloured dough. Yiannis approached the table where the other children were sitting and sat there as well. He took a piece of blue play dough and started modelling it with his hands. He also started singing "*I am modelling a cookie*" while shaping firstly a sausage shape line and then a ball to make a cookie. After a few minutes Angela asked him: "*What did you make Yiannis?*" and he answered: "*I made a cookie*". Angela praised him and after finishing this activity he moved to the conversation niche.

3.5.4 Activity 4: Drawing with marker on A4 size white paper, 3rd May, 5 min duration

Target child: Kostas- Interaction with Angela

Kostas moved towards the writing niche. He picked up an A4 size paper and a pink colour marker; he sat on the chair and started writing numbers from 1 to 10. After a few seconds he selected a grey colour marker, held his paper, got up of his chair, approached Angela pulled her hand and tried to place the marker inside it. Angela did not take the marker and said: "*What do you want me to do for you Kostas?*". Kostas answered: "*Write the numbers*". Angela said "*No, you can write them on your own*" and directed him to look at his paper. Kostas continued writing numbers and letters until it was time to tidy up. Then he followed Angela's verbal instructions and moved to the conversation niche.

3.6 Data Analysis

In this preliminary stage of research, it was essential I understood the challenging and problematic aspects of the visual art learning processes for the autistic children and the analysis focused on their behaviours. I began the analysis by studying the collected data during this research phase in a preliminary basis. Then, I reflected on it, in the light of ideas and theories in relevant literature about: i) good practice in visual arts education and ii) the effect of specific visual arts practices on young autistic children's social interaction and task participation. I aimed to use this literature to help me identify the strengths and weaknesses in the autistic children's behaviours and visual arts education practices. The data analysis underpins Engestrom's (1987, 1999) activity theory model and takes into consideration the bidirectional relationships between the autistic children and their peers and teachers that are also primary correlated to the tools, objects and tasks and rules of the activity lessons. The final step was a summative reflection and evaluation of the findings of the data analysis, organized thematically into the following three themes. My initial hypothesis was that well-structured visual arts curriculum practices that meet the needs of young autistic children can improve their motivation for task participation and provide opportunities for them to develop social interaction with peers or teachers.

3.6.1 Theme One: Correlation between autistic children's behaviours and actions with the object of motivation for engaging in visual arts activities (Figure 3.2)

One of the major problems for young autistic children in a mainstream classroom is lack of engagement. If an autistic child is not actively engaged in an activity, he/she will often be off task. Before beginning an activity or lesson, teachers should pay attention to autistic children's interests and use them as motivation for task participation (Eren, cited in Gerber and Kellman, 2010). Individual children's interests can be accommodated to reinforce teaching practices, methods and tools to achieve task participation.

The autistic children in this reception unit, seemed not motivated enough to engage with the visual arts activities, or be on task during the whole process of each activity. One possible reason for this could be that, teachers' practices were possibly not organized in that way to meet all the autistic children's special needs. One regarding a specific teaching practice that might have an effect on their task participation was that: i) all six lessons were introduced and applied on the whole class; and ii) all lessons included too many information and a complex of tasks all at once. That meant that Mary (SEN teacher) had to support all the autistic children at the same time during each lesson and also Anna (the head teacher) had to teach the lesson, give demonstrations, guidance and support to all the children at the same time as well. For instance, the data analysis showed that Kostas (in lessons one and two), Aris (in lesson three) and Yiannis (in lessons four and five) had to wait too long for their teacher's help and guidance. They did not begin their tasks in these lessons until Mary approached and helped them.

In addition, when Mary left them to support the other autistic children, they were off task.

Theory in the literature about the hypersensitivity of autistics to the environment, suggests that reducing stimulation in a classroom may be a step in the right direction. Huesmann (2006) explains that autistic children seem to be hypersensitive to the environment around them and find it difficult to process large amounts of information at the same time. Most of the lessons I observed at this reception unit communicated too much information at once about several individual tasks the children had to follow in order. For instance, in lesson three they had to make animal figures using plasticine, then use brushes and sponges to paint on a piece of paper and finally, to glue the figure onto the paper. Autistic children try to make sense of all the stimuli around them, but find it overwhelming and this leads finally to them being off task. According to Baron-Cohen (2008) the autistic brain is designed to deal best with small pieces of information, therefore repetition of information and continuous adult guidance is needed along with a minimum of classroom stimulation and tasks, in order to keep their attention during lessons. Furthermore, I hypothesised that these particular autistic children's low motivation to engage with and their participation in the visual arts activities could be linked with: i) a limitation to the use and repetition of their interests as reinforcement to achieve task participation and ii) the complexity of art materials in most lessons. First of all, due to the fact that Mary and Anna had to deal with the whole class, and a large number of children, the autistic children had limited guidance time and reinforcement. Nonetheless I witnessed some instances when an autistic child really seemed to enjoy part of a lesson activity and using specific art materials. For example,

Kostas (in lesson one) appeared most motivated when he was gluing salt onto a tree. He seemed to enjoy doing this and repeated it twice. Aris (in lesson six) played with the brushes during Anna's demonstration and copied her actions while he placed a sponge in the pot of brown tempera and used it to paint the paper. Anna helped him by holding his hand. He also seemed to enjoy putting his fingers into the tempera paint pot (in lesson six) and making finger prints on the paper after he finished painting with the brush. Additionally, during free time there was less restriction on their use of materials, but most of them were not within the children's reach and the teachers only provided them when they were asked for. Thus, there seemed to be limited opportunities of repeating tasks that motivated them as discussed above. Huesmann (2006) refers to the brain of autistic children to be likely hyper-receptive, therefore it needs multiple and simple repetitions in order to learn.

Secondly, regarding the different kinds of art materials, some lessons included several materials children had to use at the same time or in a particular order, and while each lesson contained different tasks. For example, in lesson one, children had to use thin coloured card, white paper, scissors, cotton, salt and glue sticks, and in lesson three plasticine, tempera brushes and sponges. Using all these materials at once may have impacted negatively on the autistic children's motivation and participation and was possibly too much stimuli for them to process. Theory in the literature about teaching strategies and reinforcement for autistic children, suggests that working with fewer art material can be beneficial for autistic children's motivation and attention. This is particularly the case if the materials introduced to children are less initially and reinforced by the subject

matter that interests them (ibid.; Gerber and Kellman, 2010; Gerber and Guay, 2006).

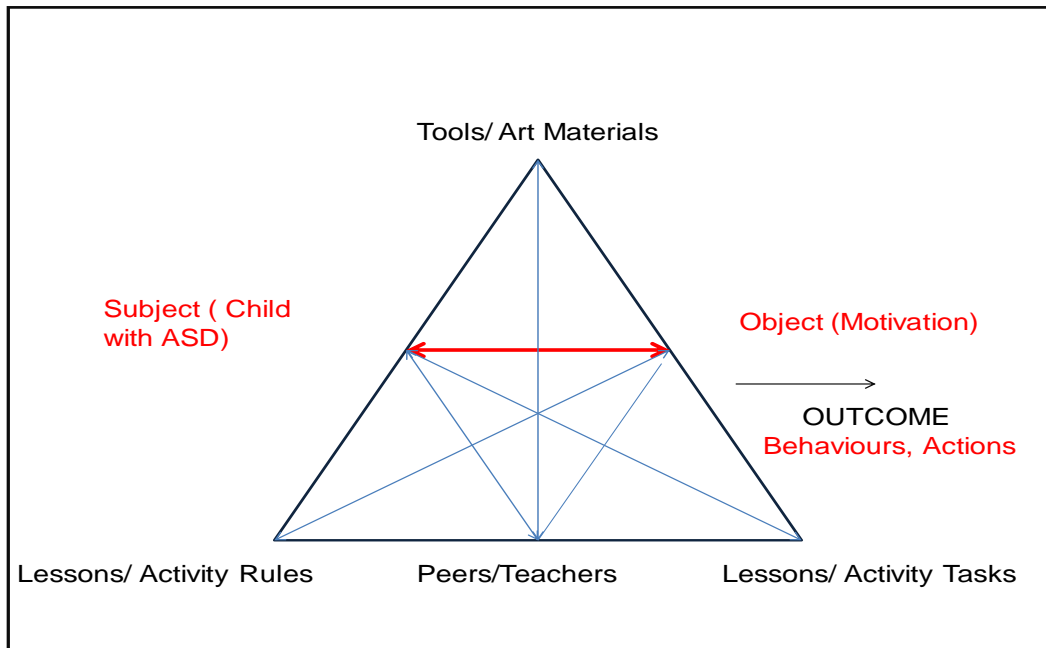


Figure 3.2: The effect of motivation on autistic children’s behaviours and actions, Research Cycle One (Adapted from Engeström, 1999, Third Generation Activity Theory Model)

3.6.2 Theme Two: Contradictions and bidirectional relationships between autistic children and their peers and teachers, regarding communication skills and engagement in social reciprocity situations (Figure 3.3)

In all the lessons I observed the autistic children needed continuous support from the special needs teachers so as to remain on task from the beginning till the end of an activity, as discussed above. Because all the children in the class needed support, the target children had to remain on their own for some time without any adult prompting. In lessons one, two and five Kostas and Yiannis did not begin the tasks on their own and were dependent on Mary’s help. In Lesson 4 Yiannis stopped painting with a brush every time Mary went away to support other

children. Every time they were left without support, the autistic children stopped work and only continued on task when an adult intervened once more.

3.6.2.1 Development of Conversation Skills and Speech Comprehension

In each lesson the children had to follow Anna's oral instructions. After the demonstration and verbal explanations of the processes involved in an art activity at the conversation niche, they moved to a table and were expected to begin a task following the verbal instructions and/or visual demonstrations they had heard or seen in advance. Mary almost always had to prompt the autistic children when they left the conversation niche to go to the tables and explain what they had to do all over again right from the beginning. However, once Mary had prompted them to move to their tables, she moved away to help other children. As a result, the target children did not begin their task for five or ten minutes. I assume that this happened because there too many verbal instructions and too much information was given all at once. It was difficult for them to remember and understand the sequence of tasks they were expected to complete. Wing (1996) and Frith (2003) refer to difficulties autistic children have, understanding verbal speech and a lot of information all at once. They say that disorders associated with speech expression and comprehension are the most common ones. Howlin (1999) understands their speech comprehension as even more limited than speech expression. Yet, autistic children are supposed to have acute visual apprehension and some scholars characterise their way of thinking as principally visual (Ozonoff, 1998; Hermelin, 2001). It is possible that giving them more visual cues, like pictures of materials, techniques and visual arts processes might help these autistic children to understand what to do better.

Furthermore, there was no evidence that any of these children attempted spontaneous verbal communication with their teachers or peers. During the structured activities they did not develop any non-prompted verbal speech either to ask for equipment and materials or for assistance to complete a task. As mentioned previously they followed some verbal instructions but needed further support. However, in a few cases they did answer directive questions from the teacher such as: “*What do you want to draw?*”, “*What did you colour?*”, or “*What is this?*”. Additionally, during free time activities there was evidence of speech development in Kostas behaviour in activity four, which was directive also when he pulled Angela’s hand and after some guidance asked her to write down numbers for him.

The literature about teaching strategies for autistic students refers to the need to structure visual arts activities in ways that make socialization and communication tasks more appealing to them. For instance, teachers are advised to make deliberate errors and create problem situations; one example is to omit giving out brushes for a watercolour activity so that the children have to seek out solutions and interact with peers or teachers to request them (Maddock [1997] cited in Lampropoulou, 2003; Martin, 2009).

3.6.2.2 Social Reciprocity

I hypothesised that the limited social interaction between the target children, peers and teachers was due perhaps to the difficulties they had, maintaining social interactions. It may also be the case that this happened because the art activities were designed in such a way that the children had to work on their own to complete practical tasks and use materials. Roger (cited in Levett Gerber and

Kellman, 2010) mentions that collaborative art activities such as creating a mural can be wonderful vehicles for practicing such skills. The data analysis revealed that almost no sharing of materials or collaborative work in pairs or in groups took place during these activities that might commence such interactions and engage in eye contact with peers, or take turns using materials or in give and take situations.

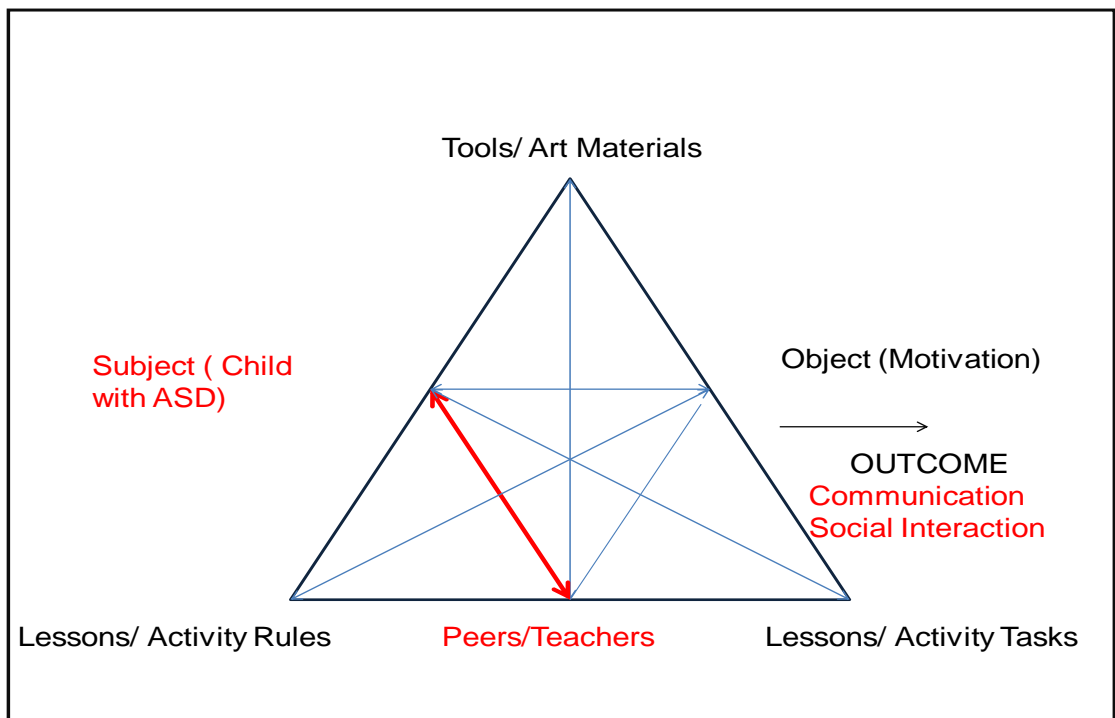


Figure 3.3 Analysis of autistic children communication skills and engagement in social reciprocity situations, Research Cycle One (Adapted from Engeström, 1999, Third Generation Activity Theory Model).

3.6.3 Theme Three: The effect of tools, goals and tasks on learning development of children with autism - Teachers' conceptions of visual art curricula (Figure 3.4)

The teachers at this school afforded the visual arts a central role in their early years curriculum and structured lesson activities around drawing, painting, construction with plasticine and collage. However, their teaching methods, lessons procedures and outcomes seemed limited in terms of aims, content, methods and visual resources. Art education research has confirmed that few early childhood teachers receive any formal training in the field (Eisner and Day, 2004; Hatfield, 2007). Kindler (1997) and Wright (1991) support that their lack of expertise in visual arts teaching has a negative impact on their classroom practice, especially regarding methods and resources. In spite of this they teach art a lot and try to integrate it into the core curriculum areas. The following section of this analysis focuses on the visual arts curriculum I observed in practice at this school and explores possible strengths and weaknesses in the learning objectives, lesson content, teaching methods, and resources that could have impacted negatively on the autistic children's behaviours:

3.6.3.1 Learning Objectives

The main learning objective for visual arts in these lessons appeared to center on knowing on how to use the materials and tools the head teacher provided and to create a two- or three-dimensional artwork or a part of it, in exactly the same way she demonstrated in advance. A secondary aim was to enhance collaborative learning through sharing materials.

These learning objectives were relatively easily attainable by many children in the class, including some of the autistic ones. They used or shared the materials and tools they were given and created visual artefacts according to the teacher's initial instructions. However, these objectives are limited in scope when considered in the light of i) the different abilities of learning of autistic children and ii) recent international literature on curriculum and visual arts (NAEA, 1994; New Greek National Reception Programme, 2012). First of all, regarding the diversity of children's abilities, the teachers should have designed learning objectives specifically for the autistic children. Tomlinson (1995) and Guay (1995) and (2001) signify the requirement of a curriculum design where learning objectives orientation and flexibility are differentiated to meet the needs of the diverse children. Secondly, regarding contemporary theory in visual art education, it is noticeable these children were not given opportunities to explore and respond to visual images and artworks. Responding to visual artworks is widely considered to be an important learning objective. If the theory in the art education literature is right both the autistic children and their peers should have been given opportunities to encounter visual artworks because this motivates and enhances creativity (Mulcahey, 2009; Tarr, 2008).

3.6.3.2 Content, Methods and Resources

The lessons were structured around painting, collage and modelling activities. The children used *traditional* materials such as markers, tempera paints, brushes, plasticine, scissors and glue to create simple forms of humans and animals. Anna always prepared all the materials in advance of a lesson and provided them for

the children. She always showed them a final product and demonstrated the practical processes involved herself; for example, how to draw a tree or animal, but did not show them any images created by professional artists. The children were expected to follow her instructions making their own products. Whereas the demonstrations may have benefited all the children and specifically autistics, in that they made them aware of exactly what they had to do, this teaching method could be useful for autistics only if each lesson did not need so many separate practical tasks (as discussed above in theme one) in order to create the final art work. It is possible that the complexity of activities overwhelmed the autistics and frustrated them because they lost sight of what they had to create. It is important to note however that the rest of the children were able to follow the instructions given in the demonstration and make their own artworks. Another problem is that because Anna was not art trained the images, she created for them to copy of houses, animals and human figures were stereotypes. As a consequence, it could be argued that the children were involved in the process of making the teacher's art.

Cooper and Sjostrom (2006) emphasize the importance of broadening students' visions of art beyond the classroom. They suggest using visual examples and "real art" to enhance inspiration, before the beginning of the actual art making process. Perhaps Anna should have shown the children illustrations in books, or searched online to find visual arts images with similar content and encouraged the children observe the colours, lines, forms and shapes in artworks for themselves and then apply them to their own art work. There is widespread agreement in current literature on art education that children should have opportunities to explore prospective content of works of art and choose first

through a range of subject matter that is presented to them (NAEA, 1994; Tarr, 2008; Brown and Deans, 2008).

3.6.3.3 Outcomes

Although the final artworks seemed like a joint effort each child created a part independently alone and glued or painted it onto a background. Anna always displayed the final work by hanging it on the wall. However, there was no discussion of them at the end of this, or the following school day. According to Eglinton (2003) discussing completed artworks is beneficial because it motivates children to pay attention to each other's efforts. It is a process that helps them appraise their own and each other's work and understand that sometimes there are different responses to different visual arts products (NAEA, 1994). This learning process is based on communication and sharing ideas through a dialogue.

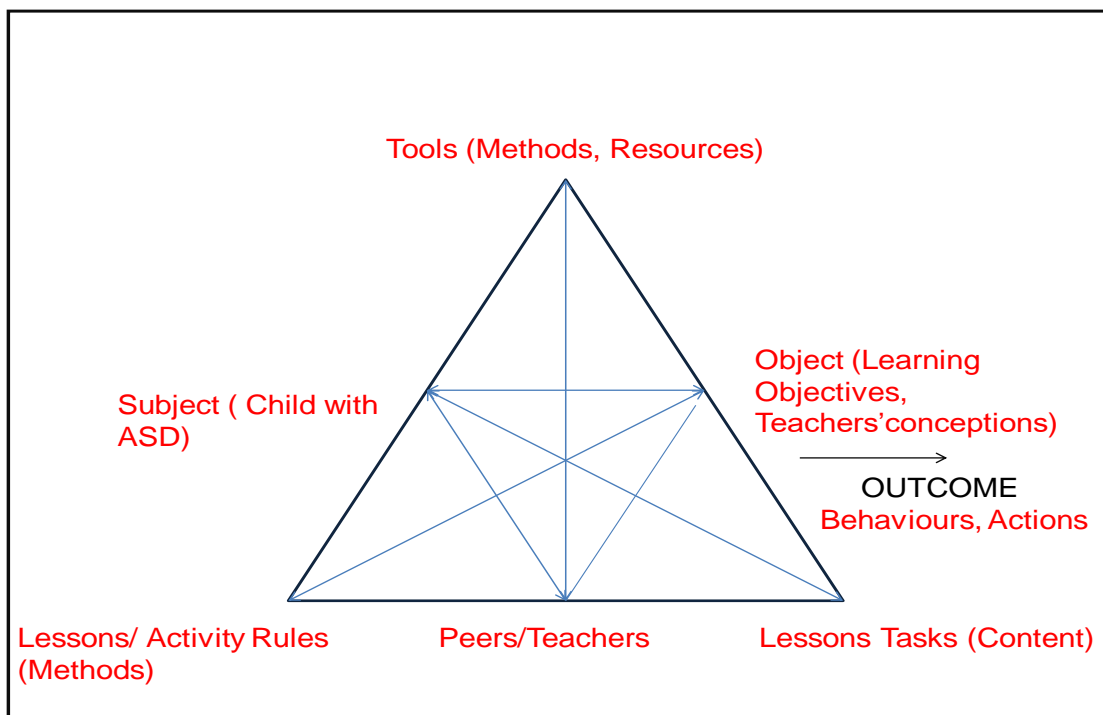


Figure 3.4 The effect of tools, goals and tasks on learning development of children with autism, Research Cycle One (Adapted from Engeström, 1999, Third Generation Activity Theory Model).

3.7 Action Team Evaluation

After the lesson observations two discussion meetings took place, on 20th and 27th March of 2012 respectively between the teachers and myself, during which we watched selected video extracts. The objective of these meetings was to engage in reflective dialogue about the lesson content and outcomes, especially as regards the behaviours of the autistic children. Both the teachers and I agreed that in designing visual arts activities more emphasis should be given to the free use of art materials and children's engagement. We wondered if it would be helpful if, the instructions for practical activities were simplified and made more specific. Anna in particular expressed concern that her instructions had been either insufficient at times or that she had given too much information all at once and blamed herself for the fact that the autistic children did not initially begin the practical tasks. After watching the videos of lessons one and two, she could see that Kostas was confused about how to proceed and when he refused to collaborate with the SEN teacher and with his peers. We all agreed that instructions need to be repeated to autistic children throughout an entire art lesson because of their limited cognitive abilities. As Blennerhassett Eren (cited in Gerber and Kellman, 2010) points out visual arts activities do not need to be less intellectually challenging for autistic students. Many of them have strong cognitive abilities and just need visual support through a visual task analysis in which each step of the activity is presented visually.

The head teacher made another good point about collaboration when she said: “*I tried to develop innovative visual arts activities but did not emphasize the significance of collaboration between the children enough*”. We agreed that it was important to consider collaboration in more depth and detail during lesson planning. Working in pairs or groups of four children might encourage them to help each other and maintain give and take possibilities for example. As Stuart et al (1995) have stressed, cooperation between autistic children and their peers is best encouraged within small groups, combined with teaching strategies that will facilitate reciprocal social interactions.

3.8 Researcher Reflection

On reflection I perceived that the teachers did understand there was a need for curriculum change so as to respond better to the needs of the children with autism. But their limited understanding of visual arts education meant they could not identify the weaknesses in their visual art practices and act on them. This was a problem not only for the autistic children but for the whole class.

As referred to at the beginning of this section, observations took place during the children’s free time as well, for the purposes of gaining a better understanding of their preferences for and abilities in visual arts. A finding from the observations of the informal part of the curriculum was that the autistic children enjoyed using materials like tempera paint and brushes, or plasticine. It appeared that they liked to feel the tempera with their hands and apply it directly onto paper and sometimes preferred this to using brushes. Martin (2009) mentions that tempera painting is far and away the most desirable process for autistic children. By

integrating their preferences interests into lessons and broaden in that way their awareness of vast variety of art materials and different ways of using them, we enhance their motivation and concentration on the tasks. Soojin Koo (cited in Gerber and Kellman, 2010) mentioned that connecting her autistic student's interests and everyday experiences to lesson topics or themes was important and that she used them to gradually expose him to new art materials and basic art concepts like line, form and shape. This strategy might facilitate improve these autistic children's responses to visual arts lessons' process and subject matter.

3.9 Summary of Findings

The team's and my own analysis and reflections on the six lessons identified important issues that on one hand dealt with the needs of the autistic children and on the other with visual arts practice in early years. A summary of the most important findings follows.

i) Regarding the autistic children's motivation and task participation the findings were:

- The teachers gave out all the information and instructions for the practical activities orally. This was too much information for autistic children to follow. Moreover, there were no visual instructions that might have increased their understanding of what they had to do.

- The autistic children's artistic interests were not used systematically by the teachers either as reinforcement to achieve task participation and an easy way of learning through tasks repetition.
- The teachers' instruction and guidance were directed at the whole class throughout.
- Each lesson included sequences of practical tasks that children had to follow one by one at the same time.

ii) Regarding the opportunities autistic children had to develop social reciprocity situations, the findings are:

- There was no sharing of materials or collaborative work in pairs or groups of the kind that might enhance engagement in give-and-take and turn-taking interactions and prompted social interactions and communication. Although most of the final products appeared to be the result of a group effort, in actual fact each child created a part alone.

iii) Regarding the teachers' conceptions of visual arts curricula, the findings are:

- A need was identified for a thoughtful consideration of learning objectives and how to differentiate them for the autistic children so they had opportunities to achieve the goals according to their abilities and skills.
- The visual arts activities were simple and failed to take account of recent recommendations in arts education theory and practice. For example, even though the final products were exhibited in the classroom, there was no discussion of them.

- Finally, there is a need to develop a visual arts intervention that offers the children freedom to elicit their creativity, but also encourages them to respond to art and develop their visual art skills and techniques. Teachers' roles could be enhanced by meaningful guidance, considerate instructions and demonstrations.

3.10 Recommendations

After undertaking this diagnostic phase of the research, and describing, analysing and interpreting the data, I thoughtfully considered all the strengths and weaknesses of the lessons, before I began to consider possible adaptations and modifications to the visual art teaching and to develop a conceptual framework for a curriculum intervention in the next research phase. The possible changes identified at this time were as follows:

- The autistic children needed support to begin and continue their practical task throughout the whole process of each lesson. The team agreed that the information given was too much for them to understand and follow. A visual task analysis might help to make them more attainable given that they think better in images than language.
- Autistic children work and collaborate best in small groups of three or four. Art activities should be introduced to small groups separately, consisting of one autistic and two or three peers. This might enhance engagement in give-and-take and turn-taking interactions and prompting and not prompting social interactions and communication and reduce

environment stimuli that might have an impact on autistic children's task participation.

- The art materials should be specific for each lesson and practical tasks simplified so as to improve the autistic children's off task behaviours.
- The visual arts curriculum unit should be designed to meet the needs of all the children; but the learning objectives, should be differentiated according to Greek National Curriculum for special education in early years (2012). Additionally, the curriculum unit should be thoughtfully designed so as to draw on contemporary developments in the changing field of visual arts education in early years.

CHAPTER FOUR

RESEARCH CYCLE TWO: DEVELOPING THE VISUAL ARTS

CURRICULUM UNIT

4.0 Introduction

In this chapter I report on the development of a conceptual framework underpinning the decisions for designing a visual arts curriculum unit. After undertaking the first research cycle related to the diagnosis and definition of the research problem in combination with the analysis and interpretation of the data and findings, I considered the need for major changes. These changes are related to the rapidly changing field of Information and Communication Technology (ICT) in the early years, special education and visual arts education. Galloway et al. (2015) reports the preference of schools to bring highly ICT media into the classroom to enhance a greater range of innovative teaching and learning approaches. The present Visual Arts- Based Intervention lies on the hypothesis that when the early years teacher involves the use of an iPad within a visual arts teaching process, then autistic children may display less of weak spontaneous communication, weak attachment, limited attention span and weak turn taking interactions that they demonstrated in the previous research phase.

In the first section I report on the justification of selecting the use of the iPad within the Visual Arts-Based Intervention, related to relevant review of literature. In the second section I refer to the framework of designing the current visual arts curriculum unit.

4.1 The iPad as a Digital Resource within the Visual Arts Based Intervention

Hal (2010) and Younie and Leask (2013) discuss the progress made in UK schools regarding use of ICT in classrooms since the original introduction of computers in the early 1980's. Teachers' knowledge and training in using ICT facilities, as well as understanding these technology media as important tools for enhancing teaching rather than replacing it, has evolved over the years. The ICT marks a turning point in the field of education and particularly special education. Caldwell and Bird (2015) argue that there is a rapid evolution from the use of technology in schools as new devices and tools have been readily available in recent years. Teachers have begun to explore the integration of media devices into learning practice, with the iPad being the dominant device in enhancing teaching and successful learning (ibid.; Galloway et al., 2015).

Although the iPad was firstly introduced t as an individual tool, it has been successfully implemented into schools as both a pedagogical and an administrative tool (Caldwell, 2015; Galloway et al., 2015). However, Hatchison et al. (2012) and Flewitt et al. (2014) argue that the iPad's pedagogical development depends on teachers' ability to include and link them to their teaching process and curriculum. Thus, it is the pedagogy in the use of technological devices and iPads that forms and expands children's learning and teachers' teaching methods rather than iPads themselves.

4.1.1 The Educational Value of Information and Communication

Technology (ICT) and iPad in the Early Years

The use of ICT devices, including iPads, is less developed in Early Years Foundation Stage, than in other the primary education stages. However, there has been a prospective interest in the use of tablets, since 2012 (Caldwell, 2015) with an emphasis given by researchers on the potential benefits of the appropriate use of iPads in early years classrooms. According to Kucirkova (2014) the iPad is regarded as the most pedagogical and easy to use tool for young children because of its simple design and functionality. For instance, iPads are portable and light weight, they eliminate the need for additional devices, such as a mouse and they consist of a significant number of pedagogical applications appropriate for young children to use alone or under a teacher's supervision.

The use of iPads in the early years classroom can potentially enhance social interaction among the children and their engagement in a task. The research studies of Wild (2011) and Clark and Luckin (2013) report the positive impact from the use of computers and iPads, in a collaborative or paired manner, on the enhancement of greater face-to-face dialogue and interaction. Additionally, the iPad's user-friendly touch screen interface allows young children to elaborate several ways of touch interactions with different applications and modes and can motivate their engagement to tasks (ibid.; Crescenzi et al., 2014).

The new Curriculum (2011) for reception units in Greece emphasises on art education and use of new technology in early childhood. The Information and Communication Technology (ICT) is considered a significant enabler in the educational field that cultivates qualities needed for children's social and

educational inclusion and development. Implementation of ICT in the daily educational programme of reception units in Greece is fairly recent, but has been established as a significant daily teaching aid with relevant tools (Greek Reception Curriculum, 2011).

According to the Greek Reception Curriculum (2011) the field of ICT includes digital equipment, such as audio-visual systems, recorders and cameras, computers and tablets, and software with applications. ICT tools are used in an interdisciplinary fashion within the daily programme of the reception class and across educational subjects such as literacy, mathematics and visual arts. The initial learning objectives are designed to show children how and when to use different forms of ICT tools and become more familiar with their procedures and applications. With regard to the visual arts subject, ICT provides a variety of tools and applications that children can use to create different forms of visual arts outcomes. Children learn different ways to create art and recognize that a visual art outcome may not only result from the traditional visual arts mediums and techniques (ibid.)

4.1.2 Use of ICT and the iPad in Teaching Children with Autism

Although there is paucity of published research studies in the field of special education needs, and specifically on children with ASD using computers and tablets, there is a growing popularity among the special education needs community that recognizes the ICT tools as significant assistive devices. McKeown (2000), Florian and Hegarty (2004) and Galloway et al. (2015) report that the use of technological devices in classrooms including children with

special needs is rapidly developed when technology meets the needs of these children and when teachers and children discover the teaching and learning opportunities that ICT devices offer. Regarding the concept of *Enabling Technology for Inclusion*, we ensure that children with special needs and in particular autistic children not only have access to these technological devices, but also facilitate their engagement and inclusion. However, Hall (2010) argues that ICT devices and iPads tablets are not the panacea for all the difficulties that autistic children face; but they are effective when embedded in the educational system, considering the specific areas of autistic children's impairments.

Over the past five years, ICT devices such as iPads have been used as assistive technology for children with special needs and those with autism, who have communication disorders (Flores et al., 2012) and vision impairments (Shah, 2011). Only in the recent years a few empirical studies examined the effects iPads on autistic children's challenging behaviours, academic task engagement and social interaction (Murdock et al., 2013; Stockall et al., 2013; Neely et al., 2012). Stockall et al. (2013), for example, research that involved the use of iPad applications for young autistic children to reinforce their motivation, interaction and communication with their peers. These studies found that the absence of young autistic children's joint attention is responsible for their difficulty to show interest in other's actions or to engage in small groups activities. The results have shown that the use of iPads in combination with teachers' specific strategies can help young autistic children become more successful in building their repertoire of interactions and engage more frequently in conversation with adults and peers (ibid.). Additionally, Neely et al. (2012) suggests that the use of an iPad as a means of instructional delivery may reduce challenging behaviour for some

autistic children. Their instructional method in combination with the presence of the iPad operated as a motivating practice in both challenging behaviour and task engagement of autistic children (ibid.). Recent studies show that iPads are frequently chosen by children with autism over other traditional devices. This may result in greater engagement and task participation. Further research to date supports that interventions carried out with an iPad result in greater engagement and reduced challenging behaviour during the intervention period compared with interventions delivered by therapists using more traditional devices (Fletcher-Watson et al., 2015; Lee et al., 2015; El Zein et al., 2016; Allen et al., 2016).

4.1.2.1 Advantages for children with ASD -Motivation and Easy Learning

Huesmann (cited in Gerber and Kellman, 2011) and Kay (2012) refer to the significance of using tablets while they reduce the complexity of teaching materials and learning skills. Autistic children become easily motivated to remain on task and feel encouraged to engage in peer tutoring on how to use it. The touch screen interface of iPad tablets makes it appealing and simple to use, particularly for those children on the spectrum who present weak fine motor skills (Song Sook Yee, 2013). Specifically, Fletcher- Watson (2014) mentions that the introduction of touchscreen tablets, such as the iPad, can help the exploration and delivery of educational content to very young children using technology. It offers a direct and highly responsive touch access even for younger children, contrary to computer's mouse use that requires a higher level of cognitive development and physical coordination (Millar, 2012).

Furthermore, learning becomes an easy and pleasant procedure because an iPad tablet offers a range of learning materials in the form of applications easy to use,

with some adult support and control. Children with ASD became independent and acquire a significant degree of autonomy in the use of the iPad which facilitates their engagement and self-directed learning (ibid.). Allen et al. (2016) agrees that autistic children's preference in the use of tablets and apps may increase the likelihood of children with ASD showing greater communication and demonstrating greater learning.

4.1.2.2 Limitations

Potentially the iPad can become addictive to children, and specifically to children with ASD, who have difficulties coping with change. Therefore, throughout the present research, the iPad is used solely for the purposes of the revised visual arts curriculum unit and during the sessions the children are under the researcher's and teachers' supervision, assistance and encouragement.

4.1.3 Advantages for Visual Arts Education

The iPad gradually becomes a most dynamic tool in the field of visual arts education. Children can explore and focus on many different kinds of visual arts applications such as painting, drawing, digital photography, animation, graphic design by using and transferring their existing traditional knowledge and skills and at the same time learning through new digital concepts at the same time. In the present research and revised curriculum unit, the young participants first use the traditional medium of plasticine to create specific two-dimensional characters which will further be used in a video animation application on the iPad. Both

Long (2001) and Dunmill and Arslanagic (2006) support the significance of making of digital images within which children can develop further visual understandings and learn new arts practices, using ICT tools because they are relevant and necessary to education and visual arts education in the twenty-first century.

4.2 Design of the Visual Arts Curriculum Unit

As an early childhood and special needs teacher specializing in visual arts teaching, I had encountered and implemented the UK and Greek National Curriculums for early childhood and the concepts of visual arts education in the early years, in both ‘typically’ developing and SEN groups of children, including children with autism, for many years. However, I had never been involved in forming a curriculum from scratch, until I developed and implemented the one in this study. Thus, before I developed and wrote the curriculum unit, I had to research and review relevant literature on curriculum planning, so as to be able to create an effective framework and design that met the needs of children with autism and was underpinned and supported by contemporary values and conceptions of visual arts education.

Regarding the design of the first draft of the curriculum unit, I followed a sequence of steps in order to develop lesson activities that were suited to reception children and complied with the specific needs of children on the autism spectrum. Therefore, I embraced Coleman and Heller’s (2009) view that modifications to core tasks and learning objectives that alter the performance of standard-based skills, are necessary in order for all children with special needs to

participate fully. I also studied the New Greek National Reception Programme (2012) and concluded that I should set specific learning objectives for the children on the spectrum, supporting one or more national standards. Finally, the learning objectives were shaped in part by the participants, but also by literature about contemporary visual art practices and approaches in early childhood (Taylor, 1986; Efland, 1990, 2002; Bredekamp, Copple & NAEYC, 1997; Atkinson, 2002; Eglinton, 2003).

4.2.1 Teaching Strategies

My preliminary investigation of teaching methods had found that the use of strategies such as visual aids, teacher and whole group demonstrations and the use of sequence lists are helpful strategies for enhancing learning and participation (NAS, 2012). The strategies developed for the purpose of the effective participation and interaction of autistic children were as follows:

- i) Visual aids and prompts: They take the form of images or objects that, as visual representations, help to explain a task or steps in an activity. In the curriculum the visual aids take the form of a visual task analysis, drawings and photos to help children remember the steps in certain tasks and create their own outcomes.
- ii) Whole Group and Interactive Demonstration: Demonstration in visual art teaching involves presentation in the form of a physical or actual practice by the teacher, so as to improve the children's understanding of the concepts in a session, methods and a specific visual art process. According to Echhoff (2008) and Knight (2010) when teacher

demonstrations are used in combination with viewing art and making experiences, this enhances children's skills and facilitates their participation in the process. In this curriculum unit whole group and interactive demonstrations are employed to explain to the children the use of instructional media.

- iii) Sequence lists: According to The National Autism Society in the UK (2012), organizing and prioritizing tasks and steps within lesson activities helps children on the autism spectrum to minimize their anxiety, understand what is going to happen next and realize the concept of time (NAS, 2012). For this curriculum unit, I sequence lists with the names of all the children participants' name written on them and they are used for organizing turn takings in tasks during the lesson.

4.2.2 Content- Instructional Media and Resources

The content of the intervention is interdisciplinary and it combines traditional and contemporary arts practices, media and resources. The media and resources used are a story line, coloured markers and white paper used by the teacher-researcher, the traditional art medium of plasticine and applications on the iPad.

Four separate sessions constitute the visual arts curriculum unit. The first session introduces the iPad and its functions to the children, also allowing time for them to explore and engage with it. In the second session the story line is narrated by the teacher-researcher, while the children draw pictures of the story and the plasticine is shaped to form 2D figures (the characters in the story). The focus of

the third session is the creation of the digital story using the 'iStop Motion' application. Finally, the fourth session features an exhibition of the final art product followed by a discussion in which the whole class participates.

Story Line

The story (Appendix 17) used in this research was developed by myself in collaboration with a PhD researcher in the field of autism spectrum disorders, dance and music and teacher. We both agreed that the story should be kept simple and short and include characters familiar to the children with autism so as to be able to process and understand the story sequence.

The story was about four friends spending time together in their school yard, where suddenly they found a little bird. At the end they all have to think how they could help the little bird. The main characters were the participants of each group. The purpose of using the children as main characters of the story was to promote motivation and engagement for the children with autism in social stories. Such social stories are personal narratives, which are based on children's experiences in familiar environments and are related to their social interactions (Stadler and Ward, 2011). Besides, listening to stories is part of both UK and Greek National Curriculums for early childhood. Young children are familiar with narrating their own stories and they are often read to by their teacher during their daily school programme.

Alongside the story line, drawings accompany the narration of the story, using markers on A4-sized white paper. The purpose of the drawings and the simple

plot of the story are to facilitate the children to remember the content for the following sessions.

Traditional Art Medium of Plasticine

The findings about art media derived from the first research cycle, whereby I was observing and recording the lessons taught by the head teacher and/or the special needs teacher and the activities that children were engaged in their leisure time revealed that children used markers, tempera paints, brushes, plasticine, scissors and glue. During their leisure time, many children (both with autism and their ‘typically’ developing peers) engaged in 2D and 3D plasticine constructions and modelling. Plasticine is an art material that is commonly used in early childhood environments and that is known to provide enjoyable and satisfying experiences for young children. As Swartz (2005) points out, a plasticine activity is considered as a creative experience that provides young children with opportunities for learning growth in many domains -social, emotional, language, physical, and cognitive. The choice of plasticine as a material, together with the iPad as a resource was based on the perception that young children could benefit from engaging in interaction with plasticine constructions, and that it could be a significant tool for developing social relationships and enhancing fine motor skills.

Malleable materials are sensory and tactile, which make them very comforting for children. Squashing, poking and squeezing these materials can give children opportunities to express strong emotions and feel empowered. Plasticine is a malleable material which provide children with the above opportunities but also is usually presented in ways that require children to be co-operative and share.

This type of play is also ideal for bringing children together, as every child can play in their own way while being alongside others (Pacini et al., 2016).

The iPad

In the current curriculum unit, ICT is used as a pedagogical resource and specifically the resource is a touch tablet such as the iPad. Specifically, the application 'iStop Motion' is used to create a digital storytelling animation, which results in a group visual arts outcome. Each group of children aimed to enhance social interactions, within collaboration, working together using an iPad and develop turn-taking. Social interaction skills are often considered a priority focus for autism intervention and technology, despite technological devices being considered as 'non-social' mediums, have also been successfully applied to this aim (Ramdoss et al., 2012; Fletcher- Watson et al., 2016). iPad was also considered as a pedagogical resource for the current research and visual art-based curriculum that may have an impact on the task engagement and attention of children with autism. Specifically, Fletcher- Watson et al. (2016) mentions the importance of children on the spectrum developing joint attention and set it as an appropriate target for technology-based interventions especially for pre-school age children. However, for joint attention to be succeeded, a coordinated triadic component is needed; the child, another person (child or adult) and the object, so as eye gazes, pointing and gestures to be developed. Although this is a complex situation, especially for young children with autism, the iPad in the current intervention aims to function as an object of developing social interaction and attention and facilitates such behaviours.

4.2.3 Brief Description of the Curriculum Unit Sessions

Session 1

Title: Introducing the iPad.

Aims: - To set safety rules

- To focus on the skills needed to appropriately hold and handle the iPad (how to drag and drop icons and access apps from the bookshelf, hand over hand instruction might be needed), (Aronin and Floyd, 2013).

- To demonstrate and introduce a selected application briefly and give children time to explore and engage with it.

Material/ Equipment: The iPad

Organization of space: A five-seater table (for a group of 4 children and the researcher/special needs teacher) in a separate room next to the main reception classroom.

Time: 35 min.

Session 2

Title: Modelling figures to animate (story line and action)

Aims: -To introduce a story line and collaborate with the children to decide on the action and the specific characters and roles.

-To recognize that different kinds of lines and shapes made by plasticine can be joined to form specific shapes and figures.

-To try and create two- and three-dimensional figures using plasticine.

-To explore and understand that these lines and shapes that form the figures can attribute movements.

Materials: A4 size white papers, coloured markers, plasticine, photos of a school yard and figures made by plasticine, a large piece of coloured roll paper.

Organization of space: A five-seater table (for a group of 4 children and the researcher/special needs teacher) in a separate room next to the main classroom.

Time: 40 min.

Session 3

Title: Animating and photographing the figures and completing the video animation.

Aim: To explore digital storytelling and animation as a product of team work.

Material/Equipment: the scene of the school yard with the figures made by the children on the roll paper from the previous session, an iPad and the 'iStopMotion' application.

Organization of space: A five-seater table (for a group of 4 children and the researcher/special needs teacher) in a separate room next to the main classroom.

Time: 40 min.

Session 4

Title: Sharing the video animation with the class.

Aim: -to be aware that their visual art work can be exhibited to others.

-to share, talk and express their interest in their completed art work.

Organization of space: The main reception classroom- conversation niche.

Time: 20 min.

CHAPTER FIVE

RESEARCH CYCLE 3: IMPLEMENTING AND EVALUATING THE VISUAL ARTS CURRICULUM UNIT FORMATIVELY

5.0 Introduction and Aims

The reflection and evaluation on the data gathered in the first research cycle, led to the development of a visual arts-based intervention that includes four sessions, considering the needs of children with autism and their peers. My observations of the lessons in the previous research cycle and the subsequent meetings with the teachers brought out important issues related to the requirement of using new and innovative tools such as an iPad tablet in teaching visual arts to young children and enhance their social interactions and task participation. The overall aims of the visual arts curriculum unit during this research cycle are: i) to use the iPad tablet as an innovative tool in visual arts-based intervention, ii) to develop a significant positive correlation and effect of the intervention on the level of social interaction skills and task participation of child with autism. Children with ASD participants exhibited weak spontaneous communication, weak attachment, limited attention span and finally weak give-and-take and turn-taking social interactions, in activities observed in the classroom, during the first research cycle. During this visual arts curriculum unit children were predicted to demonstrate less of the aforementioned behaviours. The visual arts curriculum unit includes four sessions and aims to i) enhance children's social interaction skills (according to WHO and APA characteristic features of autism) regarding peer relationships development appropriate to developmental level (give- and – take, turn- taking interactions); and ii) share of enjoyment, achievement and

interest with their peers; and finally, iii) to explore digital storytelling and animation as a product of a team work.

5.1 Participants – Roles

5.1.1 Participating Children and Teachers

The first group was consisted of 4 children (one child with autism and three ‘typically’ developing peers) selected by the head teacher. A special needs teacher was present in the classroom as an assistant and participant observer, using an observation list. The children are referred to in this chapter by the pseudo names of Helen, Peter (child with autism), Chris and Maria respectively and one special needs teacher is named Mary.

5.1.2 Researcher

I adopted the role of participant observer and taught the visual arts curriculum unit to the first group of children. My data collection instruments were researcher observation, an observation list and video recording of four sessions using two static cameras. Before teaching the unit, I visited the reception classroom on 21st October 2013, where Anna (head teacher) and Mary (special needs teacher) introduced me to the whole classroom and then indicated the first group of children that would follow me to the next classroom to begin with the sessions. Mary and Anna had decided in advance the children participants of the first group and explained to them the process.

5.1.3 Procedure- Action Team

The process of teaching the visual arts curriculum unit took place from 21st to 25th of October 2013 (in separate days each session, Table 5.1) and lasted approximately 20- 40 min each. The 4 sessions I taught took place in a different classroom next to the inclusive reception unit. Following each session, a discussion meeting took place each time between the teachers and the researcher. I showed them extracts from the video recordings, to arouse a recall and achieve reflection and evaluation needed to reform any practice or make changes in the curriculum unit before teaching it again to the second group of children (Elliott, 1991).

| Formative Implementation of the Intervention | | |
|--|-------------------------------|---|
| Sessions | Date | Participants |
| Session 1: Introducing the iPad | 21 st October 2013 | - 1 child with ASD (Peter) - 3 'typically' developing peers - Researcher - SEN teacher |
| Session 2: Modelling figures to animate (story line and action) | 22 nd October 2013 | - 1 child with ASD (Peter) - 3 'typically' developing peers - Researcher - SEN teacher |
| Session 3: Animating and photographing the figures and completing the video animation | 23 rd October 2013 | - 1 child with ASD (Peter) - 3 'typically' developing peers - Researcher - SEN teacher |
| Session 4: Sharing the video animation within classroom | 25 th October 2013 | - 1 child with ASD (Peter) - 3 'typically' developing peers - Researcher - SEN teacher |

Table 5.1 Timetable for Cycle Three

5.2 Description of Visual Arts Curriculum Unit

5.2.1 Session One, 21st October 2013

Title: Introducing the iPad

Aims: - To set safety rules

- To focus on the skills needed to appropriately hold and handle the iPad (how to drag and drop icons and access apps from the bookshelf, hand-over-hand instruction might be needed), (Aronin and Floyd, 2013)
- To demonstrate and introduce a selected application briefly and give children time to explore and engage with it.

Material/ Equipment: The iPad

Organization of space: A five-seater table (for a group of 4 children and the researcher/special needs teacher) in a separate room next to the main reception classroom.

Time: 35 min.

After completing free time activities, Mary (SEN teacher) assembled the four children of the first group and guided them to the classroom next to the reception unit. I asked them to sit to the table and showed the iPad tablet, asking if they knew what it was. They all answered "*It's a tablet*", including the autistic child (Peter). Specifically, Chris said that it seems like a small computer. Then I introduced to the children some safety rules regarding their responsibilities for use of the iPad during the sessions. The instructions regarding the safety rules were followed by visual images and discussed using at the same time the tablet so as children and specifically autistic child to understand them better. I showed them how to open the cover case of the iPad and use our fingers on the screen

and Peter tried it following my verbal instruction. Finally, the safety rules that were discussed and decided among the group were:

- The iPad should be placed on the table only during the sessions and it should be covered in a safety case. Children are not allowed to remove the safety case.
- Children must use both hands when carrying the iPad. Furthermore, children are not allowed to carry the iPad and walk around the room.
- Heavy objects should never be placed on top of the iPad, nor should sharp objects be used on the screen surface.

After completing with the safety rules' introduction, I demonstrated some hand instructions for appropriate use. I showed them how to drag the pages and icons on the screen and use their fingers to select an icon or open an application.

Specifically, I showed the icon with the application that we would use and the camera roll that we would use to take photos and save them. I introduced the app "*Lazoo: Let's Colour*". This specific app has been selected because it is easy in use and it offers three visual step instructions on how to use it. The children in turns simply selected and coloured a page, pressed the GO button and then watched their drawing come to life while this app includes "living animated pages". At the end they took a photo of their drawing using the iPad camera and saved it to the camera roll of the iPad. The procedures of the living animated drawings and the use of camera to take photos provided a first experience and exploration that link to the animating and photographing the figures of the story in the following sessions.

Emphasis was given to give- and- take and turn- taking interactions. For instance, I explained that if someone holds the iPad the others should wait for their turn and once finished should give it to the person next to them. Therefore, we arranged from the beginning a specific turn- taking sequence and made a list with children's names. Every time I was writing the name of a child Peter was repeating after me. Peter was the last in the list, so he had to wait for his peers' turn. When Peter's turn came, he followed my verbal instructions and used his finger to open the specific icon and select the application. He selected a picture to colour, choosing different colours using his finger and then took a photo of his drawing. Then I asked him to check the camera roll and see if his drawing was saved. Once he had finished, I asked him to give me the iPad.

5.2.2 Session Two, 22nd October 2013

Title: Modelling figures to animate (story line and action)

Aims: -To introduce a story line and collaborate with the children to decide on the action and the specific characters and roles.

-To recognize that different kinds of lines and shapes made by plasticine can be joined to form specific shapes and figures.

-To try and create three dimensional figures using plasticine.

-To explore and understand that these lines and shapes that form the figures can attribute movements.

Materials: A4 size white papers, coloured markers, plasticine, photos of a school yard and figures made by plasticine, a large piece of coloured roll paper

Organization of space: A five-seater table (for a group of 4 children and the researcher/special needs teacher) in a separate room next to the main classroom.

Time: 40 min.

After returning to the classroom from break time Mary assembled the 4 children of the group and came to classroom next to the main reception unit to begin with the session. Firstly, I explained to them that the previous day's session helped them to learn how to use some applications of the iPad and that we would use some specific applications such as the 'iStop Motion' application and the camera roll on the iPad to create our own story animation. But first they should model the characters using the plasticine, decide for the action and create a scene that the action would take place. Therefore, I narrated to them a story and at the same time I was drawing pictures of the story in a sequence. My drawings constituted a visual aid for them to create thereafter the figures of the story and decide for the story line. The characters of the story that I used were the four children, Helen, Chris, Maria and Peter. The story was about four friends who spent some time at the school yard. Suddenly Chris found a little bird under a tree. The children shared ideas about what to do and how to take care of the little bird. Each child demonstrated an idea and they all finally found a solution under Mary's and my guidance and questions. For instance, I asked them "*whose adult's help should you ask for the little bird?*", Helen answered "*Mrs. Anna's help*". Helen also said "*We should take the bird back home*". I told them "*You are at school and the little bird seems hungry, so what does it need?*". Chris said

“We have to feed the bird”. Then I asked Peter what they could feed the bird but he did not answer; Helen immediately said *“some bread”* and Peter repeated *“some bread”*.

Thereinafter, I explained that it was time to model the figures and the scene which would be the school yard with some trees, the little bird or the sun or anything else they would decide so as to form the scene of the yard where the action and furthermore the animation would take place. Chris suggested that each child should model himself and the rest agreed. Helen said *“I do not know how to model a figure”* Therefore, I showed them photos of a school yard and figures made by plasticine in the camera roll of the iPad. I also gave a demonstration of how to model a figure. I gave them different colours of Plasticine; Peter made his figure and a sun; Helen made her figure and the little bird and Chris and Maria made the figures of themselves and their teachers. I also gave to Peter some drawings of the story to have a visual picture of what he had to model with the Plasticine. Once he finished modelling his figure, he pointed at yellow plasticine, saying *‘yellow sun’*. When all of them completed their figures, they placed them on the coloured piece of roll paper to form the scene of the animation that it would be used in the following session.

5.2.3 Session Three, 23rd October 2013

Title: Animating and photographing the figures and completing the video animation

Aim: To explore digital storytelling and animation as a product of a team work

Material/Equipment: the scene of the school yard with the figures made by the children on the roll paper from the previous session, an iPad and the 'iStopMotion' application

Organization of space: A five-seat table (a group of 4 children, researcher and special needs teacher) in a separate room next to the main classroom.

Time: 40 min.

After completing free time activities in the morning, Mary assembled the children and they all came to the classroom where the sessions took place. The children sat to the table and I explained them the action of that day's session. I placed the iPad in front of the scene (the coloured piece of roll paper with the figures in the school yard) so as its camera to view the entire frame. I activated the iStop Motion application and gave them instructions on how to move their figures and then take a photo. I asked Peter if he remember where the icon of the camera roll was on the iPad screen. He showed me the correct icon and I asked him to open it. Then I selected a video animation I had created in advance with playmobile figures and I showed it to them. I explained them that they would make something very similar to the video animation they just saw. Afterwards we arranged a turn sequence and they began the movement sequence of their figures in turns. After each movement they took a single photo of each figure in the selected position and it was automatically saved in the camera roll. They moved the figures bit by bit, in very small movements each time. For example, it was the entire body if the figure was walking, or it was just an arm or leg. They repeated the movement sequence until the action step of each figure was completed according to the story action that was decided in the previous session.

At the end all pictures were saved on the iPad in a sequence and the video animation was completed.

5.2.4 Session Four, 25th October 2013

Title: Sharing the video animation with the class

Aim: -to be aware that their visual art work can be exhibited to others

-to share, talk and express their interest in their completed art work

Organization of space: The main reception classroom- conversation niche

Time: 20 min.

At the end of the school day Anna assembled all the children at the conversation niche. The children of group 1 and I sat at the centre of the conversation niche and I explained to the whole classroom that Peter, Helen, Maria and Christos would show them the work they did with me the last week and that they could discuss or ask any question about it.

Initially, Peter, Helen, Maria and Chris showed them the pictures they coloured using the application "*Lazoo: Let's colour*". I asked Peter if he remember the icon where the pictures were saved on the iPad screen. He pressed the correct icon and dragged the pictures to find the one he coloured. Then Helen, Maria and Chris showed their pictures as well.

Next, I gave information about the upcoming days' sessions and I asked the three children to narrate the story to the whole classroom. Helen begun narrating the story, while showing the figures she made on the roll paper. I asked Peter to

show as well his figures and tell us what he had made. He just showed his figures. Then Chris continued the narration. One child asked “*where did you find the little bird?*” and I repeated the question to Peter. He said “*under the tree*” and Helen added that “*We had to feed it because it was very hungry*”, so Maria said “*we gave some bread*”. Helen continued and explained the process of the movement sequence of the figures and how they took photos of them each time. Finally, they showed them the complete video animation they created. Peter came next to me and expressed the interest to drag the iStop Motion icon and press the button. I asked him “*Do you remember where it is on the screen?*” He found it and pressed the button. All the children watched the video animation of the group.

5.3 Data Analysis

In the beginning an analysis procedure of the collected data took place in a preliminary basis considering the outcomes of the observation lists, the video recordings and the meetings with the teachers at the end of each session. Specifically, thereafter a thorough analysis of the data from SEN teacher’s observations and interpretations within the observation lists and video recordings led to a summative reflection and evaluation. The themes identified from the reflection and evaluation were studied proportionately for each session and were:

- i) the positive effect of the iPad tablet as an innovative tool, the visual art materials and the teaching process on the learning development, enjoyment and motivation of the autistic child (enjoyment and motivation were measured by evidences of such behaviours of autistic child, indicating gestures, smiling,

pointing, following other's work and cues in specific moments, ii) the effect of the curriculum unit on the enhancement of autistic child's prompting and not prompting social interaction skills regarding peer relationships development appropriate to developmental level (evidences of engagement in give- and -take and turn- taking interactions) and finally iii) autistic child's exploration of digital storytelling and animation as a product of a team work (evidences of participating in the creation of the digital story as a team work, by following rules). Furthermore, the purpose of the meetings with the teachers was to: i) arouse a recall, document such behaviours mentioned above, by watching the video recordings and focusing on specific extracts, ii) achieve reflection and evaluation needed, iii) jointly reform any practice or making decisions about changes in the curriculum unit, before teaching it again to the second group of children (Elliott, 1991).

5.3.1 Session One: Introducing the iPad

5.3.1.1 The effect of the iPad tablet as an innovative tool on the autistic child's learning development, enjoyment and motivation

The first session constituted for almost three of the four children of the group, a first chance to work on a tablet. Although all of them knew what an iPad tablet is, they did not have many chances to deal with it. There is a computer in the reception classroom but it does not have a touch screen that makes the activity easier and more enjoyable for the children. Specifically, Peter responded immediately to the iPad's way of function and he did not exhibit any difficulty with fine motor skills regarding the use of his finger to drag the pages and icons

on the screen, select an icon or open an application. iPad offers a direct and highly responsive touch access within the developmental capacity of young children. Even children with less developed fine motor skills can benefit and have a response from iPad's light touch (Millar, 2012; Saylor and Rodriguez, 2012) (Figure 5.1).

All the children of the first group seemed to pay attention on my guidance and the safety rules we set at the beginning of the session, during the whole process of the session. Specifically, they seemed amused and being motivated when I presented the application "*Lazoo: Let's colour*" and explained that they would have time to operate on it. They all waited for their turn, following the turn sequence list with their names that was decided before starting operating the application. Peter's name was the last in the list and so he had to wait quite long for his peers' turn. That made him impatient and he got up from his seat several times to approach closer his peers that hold the iPad each time and watched the screen of the iPad. He seemed very enthusiastic when his turn came and went back to his seat after my oral guidance. He immediately worked on the specific application, without much adult assistance. He was motivated by the pallet with the several colours and kept changing selections using different colours for his picture. Once he finished with his art work within the application, he asked me to repeat the task, but the time was limited.

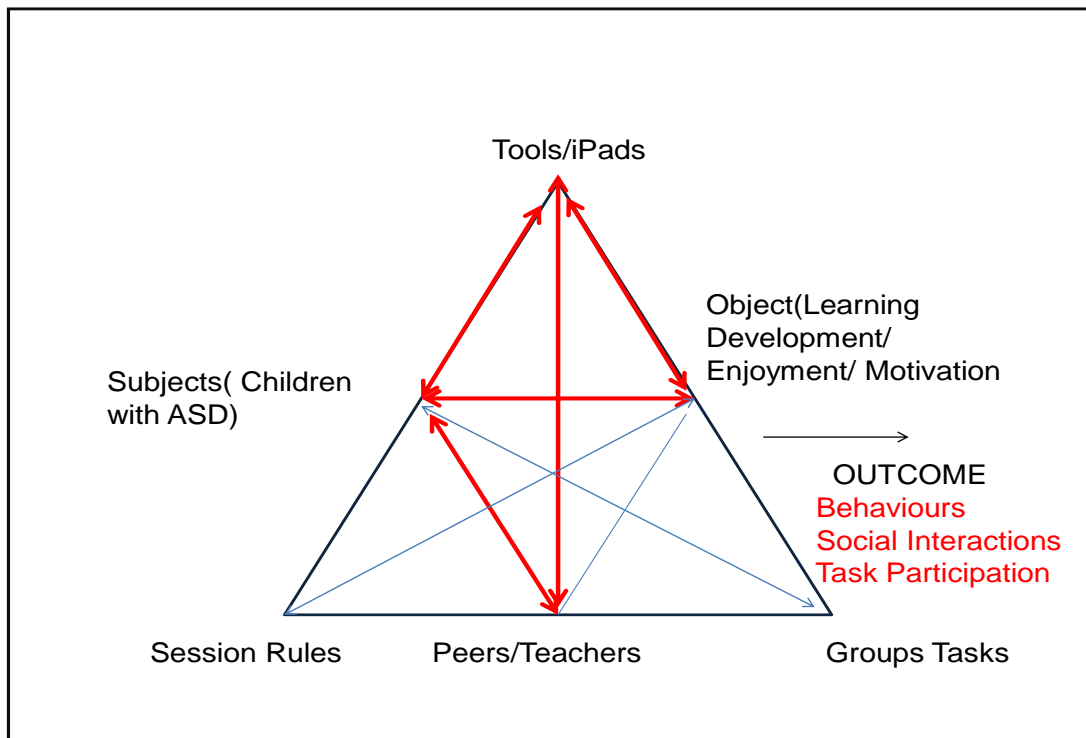


Figure 5.1: The effect of the iPad tablet on the autistic child's learning development, enjoyment and motivation and social interaction and task participation, Research Cycle Three (Adapted from Engeström, 1999, Third Generation Activity Theory Model).

5.3.1.2 The effect of the first session on autistic child's enhancement of prompting and not prompting social interaction skills

During the first session Peter did not present enough social interaction in a developmental level with his peers and he did not address sufficient speech to his peers, special needs teacher or myself.

-Evidence of prompting social interaction: Peter presented an appropriate eye contact with his peers and me. Specifically, he had an eye contact and appeared to understand my speech, when he answered my questions regarding the rules of the session and the sequence list with the names. However, he needed a continuous prompt to get back to his seat and wait for his turn.

-Evidence of not prompting social interaction: Although Peter seemed anxious because he had to wait for his turn to use the iPad and he got off his chair several times, he remained in the group and followed the give-and-take and turn taking rules. He was approaching his peers to share and watch the screen of the iPad when it was his peers' turn, but he never grasped it from them. He seemed more like he was interested in their coloured pictures and what they were creating, rather than taking the iPad from them to work on his own.

5.3.2 Session Two: Modelling figures to animate (story line and action)

5.3.2.1 The effect of the teaching process and the selected visual art medium on the autistic child's learning development, enjoyment and motivation

The second session constituted the first part of the main activity that was the creation of a digital storytelling animation, and included the narration of a story by myself and thereafter the creation of the figures and scenery by the children.

The significance of the first part of this session underlies on the children's understanding of the story line and furthermore on their jointly collaboration and my guidance to proceed on a brainstorming of the story outcome, so as to be able to create at the second part of the session the figures and a variety of selected objects to form the scenery of the story. On the whole the session was conducted as it was initially designed, except from some issues arisen throughout the teaching procedure and are discussed as follows:

-Aims: The initial aim of children to accomplish a good understanding of the story narration was attained. The children attended carefully throughout the story line, observing with a great interest the pictures I was drawing while narrating the story at the same time. Yet, there was a limitation on the children's and specifically Peter's interface and brainstorming of ideas regarding the outcome of the story; therefore, a continuous adult setting of guided questions was necessary.

Regarding the aims of the second part of the session, they were effectively accomplished, as the children, including Peter, created different kinds of lines and shapes made by plasticine and joined them to form specific shapes and figures in three dimensional patterns.

-Content, Methods and Resources: First of all, the notion of drawing pictures that showed occurrences, figures and characteristics of the story, using coloured markers, while narrating it to the children, validated the significance of the use of a visual task analysis or a story while teaching autistic children (Gerber and Kellman, 2010; Gerber, 2011). Peter was significantly motivated by the coloured pictures; thus, he was sitting next to me through the whole process of the narration and drawing of the story pictures. Specifically, SEN teacher informed

me that Peter likes reading words; therefore, I decided to write key words of the story on the pictures and then I was asking Peter to read them. He enthusiastically read many of the written words and assumedly that was Peter's most enjoyable instant time of the first part of the session.

After completing the story narration, the children had to decide the end of the story line and conclude to a pleasing end for all of them. However, they were hesitant at the beginning to share in the group any possible solution about the four friends of the story and what they should do to help the little bird. This task seemed difficult for Peter too and did not pay enough attention. Therefore, in order to motivate them I used an A4 size paper and started drawing some icons showing possible solutions for the story outcome, writing the words next to the icons and setting questions to the children at the same time. This method turned out encouraging to the children's collaboration and sharing of further ideas. Peter as well did not indicate any solution but kept reading the words in the list that I made.

The second part of the session included the creation of the scenery using the art medium of plasticine. That appeared to be the most enjoyable part for the group. The children created their figures and several objects such as trees, a sun, and benches after my demonstration and some pictures of completed forms I showed them using the iPad. Peter needed a one-to-one guidance; both SEN teacher and I helped him to create his figure, SEN teacher placed her hand on top of his to guide his movements and model his piece of plasticine. Thereinafter, after several trials without probably satisfied results for Peter, he took in front of him a picture I had drew before and used it as a pattern, following the outline of the drawings and placing pieces of plasticine to form his figure and a sun. Peter's

selected method of participating satisfactory to this task, confirmed his willingness to contribute to the group and overcome his practical difficulties.

-Outcome: The final artwork exhibited the scenery that would be used in the following day’s session to complete the video animation. The children placed their individual parts of artwork on the large piece of roll paper randomly. Apart from the figures and objects that children made to form the scenery, they all expressed desire to model more objects than those decided in the beginning and not related to the scenery. So, Peter as well ended some more figures such as trees following the same method, using the picture as a pattern.

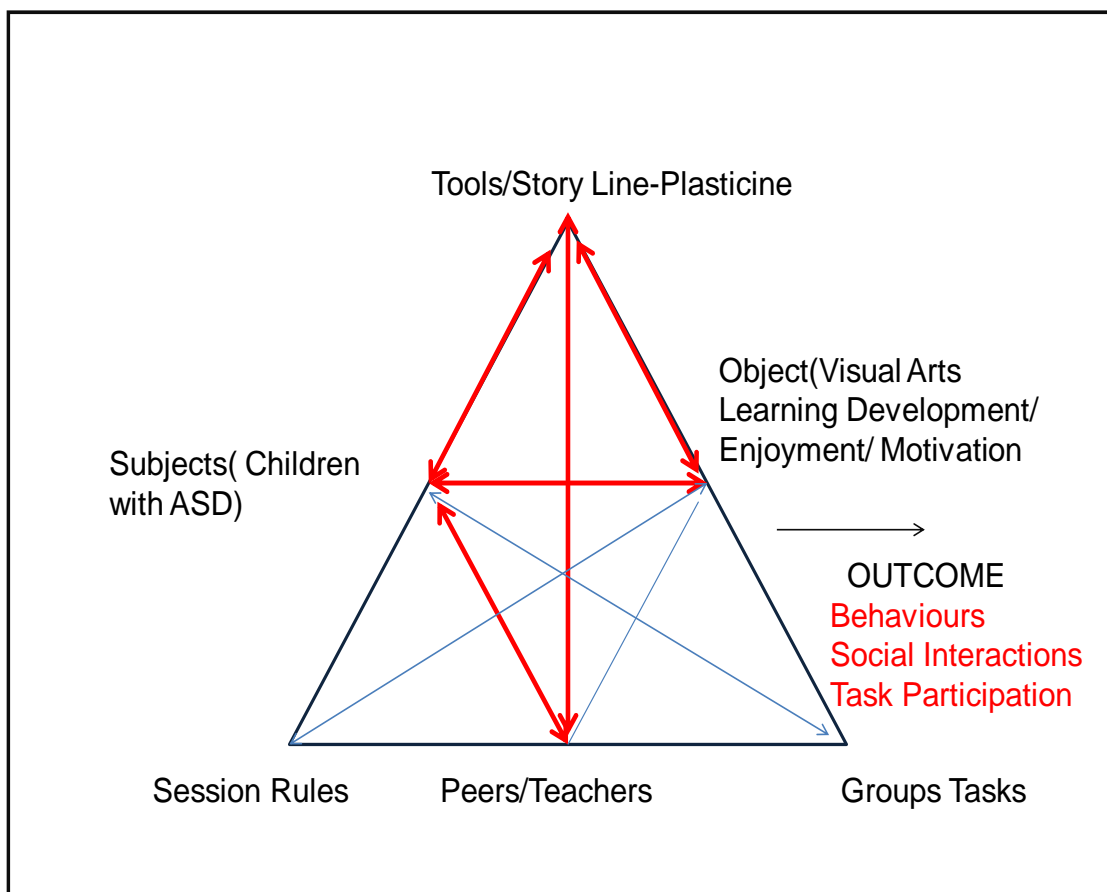


Figure 5.2: The effect of the story and plasticine on the autistic child’s learning development, enjoyment and motivation and social interaction and task participation, Research Cycle Three, (Adapted from Engeström, 1999, Third Generation Activity Theory Model).

5.3.2.2 The effect of the second session on autistic child's enhancement of prompting and not prompting social interaction skills

The first part of the session did not present adequate opportunities for prompting or not prompting social interactions between the children. A possible explanation could be that there was not sufficient engagement in give-and-take and turn-taking interactions, as the children had to follow an adult story narration and get thereafter involved in a discussion and share of ideas. As regards the second part of the session, there were more opportunities for prompting and not prompting interactions, while the task of modelling with plasticine was designed in such a way that the children had to participate in give-and-take interactions sharing the plasticine (Figure 5.2).

However, there were more evidences of prompting interaction between Peter and me in both story narration and modelling of the figures tasks, through a set of directed questions procedure, such as questions about specific details in the story line, where Peter responded, trying to read the words. A noticeable evidence of Peter's social reciprocity was his attendance to the sequence of the session's tasks, my guidance and rules of the session.

5.3.3 Session Three: Animating and photographing the figures and completing the video animation

5.3.3.1 The effect of the video animation task on the autistic child's learning development, motivation and exploration of digital storytelling as a product of a team work

The third session constituted the second part of the main activity, which was the animation and photography of the figures within the scenery to create the plot of the story and finally complete the video animation as a group visual art outcome. The issues that we encountered through the session were practical based such as the safe set of the iPad on the table and it is further discussed as follows:

-Aims: The initial aim was achieved; the children properly understood all the instructions and steps to move their figures bit by bit, in very small movements each time, the entire body of the figure if it was walking, or just an arm or leg. Then they had to take a single photo of each figure in the selected position and it was automatically saved in the camera roll. Peter as well, followed my directions and his peers' actions and appeared to have fully understood the process.

-Contents, methods and resources: In order to achieve a sequence of children's figures movement and action, I arranged a sequence list with the children's names randomly and Peter was the third in the list. I wrote their names with coloured markers on an A4 size paper and placed it in a visible place in the classroom. So, children formed a queue in front of the fixed iPad on an improvised base that was placed in front of the scenery. Peter followed the instructions and tried to remain in the queue as it was agreed from the beginning. However, he seemed positively anxious when his turn was coming to move his

figure and specifically when he had to press the button on the iPad and take a photo. Assumedly these were Peter’s most motivated and enjoyable instant times within the session. Yet, I had to remind him sometimes to follow his peers in the queue, showing him the sequence list, because he was approaching his peers to watch the screen of the iPad together, when it was not his turn.

Furthermore, a practical issue we encounter was that the iPad fell from the improvised base a few times due to some rapid movements of the children. Thus, valuable time was spent to improvise the basis and place the iPad.

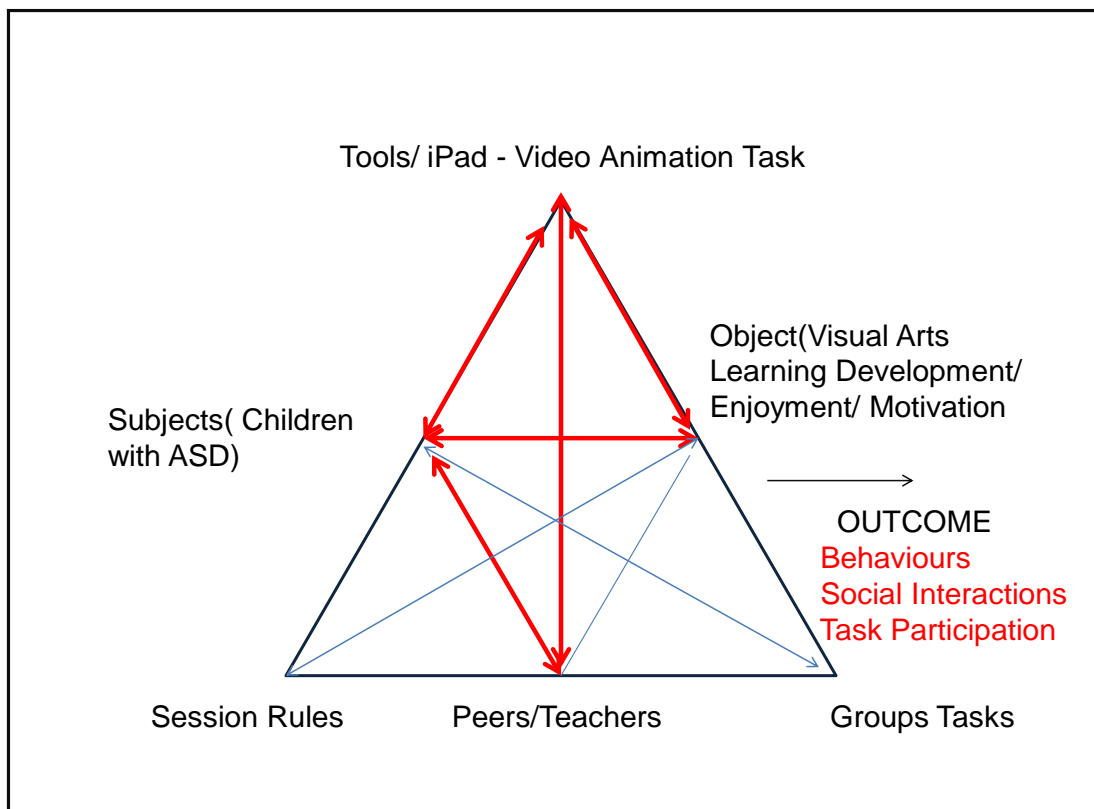


Figure 5.3: The effect of the video animation task and the use of iPad on the autistic child’s learning development, enjoyment, engagement and motivation and exploration of digital storytelling as a product of a team work, Research Cycle Tree (Adapted from Engeström, 1999, Third Generation Activity Theory Model).

5.3.3.2 The effect of the video animation task on the enhancement of autistic child's prompting and not prompting social interaction skills regarding peer relationships development

This session provided opportunities for the children and specifically Peter to develop social interactions and maintain social reciprocity situations. The aspect of a continuous set of actions such as, remaining in the queue, following a sequence and a turn-taking situation, moving around the table where the scenery was placed to move the figures, observe and taking into consideration the actions of the peers regarding their figures and their specific movements, created assertive elements for both prompting and not prompting development of social interactions (Figure 5.3).

-Evidences of prompting social interactions: Through the whole process of the session Peter responded to my directive questions such as “*where is your figure?*”, *what movement do you have to do now?*”, *who's turn is now*”. He answered all of my questions at one word and he maintained an eye contact most of the time. He tried to follow the sequence order and he stayed in the queue after my verbal instructions.

-Evidences of not prompting social interactions: Peter remained in his group from the beginning till the end of the session. He never felt tired or expressed any complain. He followed his peers' actions and movements and any time he was leaving the queue it was because he wanted to stand next to his peer each time, he /she was moving the figure and working on the iPad. Specifically, he liked pressing the button on the iPad to take photos of the movements. Therefore, quite at the end of the animation and when all had finished with their figures'

movements, Helen was moving the little bird in the scenery and Peter was pressing the button to take a photo, without any peer or my verbal instruction and only when Helen had finished with each movement. This reaction validates the development of a not prompting interface between Helen and Peter. Although there was no verbal guidance, Peter observed his peer and decided to follow her actions to collaborate with her.

5.3.4 Session Four: Sharing the video animation within classroom

5.3.4.1 Evidences of autistic child's social interaction development in terms of understanding the significance to share, exhibit, talk and express interest about visual arts experiences

The final session aimed to create a process of communication and interaction between the children of the group and the rest in the main classroom. Specifically, this process formed a dialogue as a motivation, a praise and feedback towards children's artwork (Eglinton, 2003), (Figure 5.4).

As regards Peter's reactions in terms of the above aspects, he presented only prompted interaction with me and some of his peers. Although he remained within his classroom and seemed to pay attention to the whole process of setting questions about the previous day's group, his peers who narrated the story and explained to the rest of children what they made with plasticine, he appeared anxious in the beginning of the session. He answered only directed questions at one word, asked by me and Anna. He was also willing to show the figures he made, but he did not maintain enough eye contact.

The instant time that Peter seemed to enjoy and being motivated was when the group showed to the classroom the pictures, they made during the first session using the application “*Lazoo: Let’s colour*”. When his turn came, he immediately handled the iPad and found on his own the camera roll, where the pictures were saved. He selected his and showed it to the classroom.

5.4 Action Team Evaluation

At the end of each session observation, a discussion meeting was taking place, between the teachers and myself, during which we watched selected video extracts. The objective of these meetings was to engage in reflective dialogue about the lesson content and outcomes. We focused on the effects of the iPad as an innovative art educational tool and the curriculum intervention as whole on the autistic child’s social interaction, motivation and engagement. Specifically, we evaluated the intervention as a whole regarding: i) content and instructional media and resources; ii) learning objectives; and iii) instructions and strategies.

At the beginning both the teachers and I agreed that although the current approach of this intervention was new for all the children participants, they seemed to understand the content of all the sessions and enjoy the whole process of it. As a consequence, overall, we agreed that a change to curriculum practice, involving art, was beneficial not only for the child with autism but also for the rest of the ‘typically’ developing peers. Specifically, Anna mentioned that this group of children had an opportunity to participate in a contemporary visual art making process; the combination of the traditional art medium of plasticine with the iPad expanded their skills in further developing visual art experiences.

Although the use of plasticine was already a fun activity for them, its combination with the iPad fostered their engagement in the task and their social interaction so as collaboratively to create the video animation. Finally, we all agreed that in terms of content and choice and use of instructional media and resources, the curriculum unit was regarded as enjoyable, within which the group was motivated and stimulated.

Furthermore, estimations were expressed regarding the modified learning objectives for the autistic children. Both the SEN teacher and I agreed that it would be helpful for us as teachers to have set in advance more specific objectives for the autistic children in order to guide them appropriately within the session but also evaluate their behaviours in the end.

Finally, the team noticed that Peter's visual skills helped him participate satisfactorily in most of the session tasks and that he had the ability to gain a better content understanding of each session through pictures. The teachers and I agreed that it was necessary to use and improve the visual teaching method for the children with autism and enhance it with strategies throughout all four sessions, which would help them to participate and interact effectively.

5.5 Researcher Reflection

On reflection I perceived that the teachers did understand and appreciated the need for curriculum change so as to respond better to the needs of the children with autism. The formative curriculum unit implementation overall seemed to have a positive effect on autistic child's social interaction and task participation.

However, there were some issues that needed to be considered thoughtfully and modifications to be applied. There were instances where the child with autism seemed anxious and impatient in following some instructions and sequence lists. For example, while waiting for his turn, to use the iPad (sessions one and three) or during the story narration (session two).

On the other hand, the child with autism seemed significantly motivated by the use of visual aids such as the coloured pictures and the written words on them during the story narration, the demonstration using the plasticine and by all the guidance on how to use the iPad and make a video animation.

On reflection I concluded that some changes needed to be made so as to improve the curriculum unit the second time it was implemented. My focus was in setting more opportunities for social interaction and task engagement and minimizes autistic children's anxiety. Therefore, I considered the use of specific resources and approaches, such as the use of a second iPad in session one, the accessory of 'magic arm' in session three and working in pairs to model figures in session two. Additionally, I considered that further modifications needed to be made regarding the learning objectives so as children with autism: i) to participate in give-and-take and turn-taking interactions with their peers, share materials and show interest in them; ii) to learn to remain on task; and iii) to cooperate and collaborate with peers. Finally, I understood that the enhancement of the visual method of teaching, such as continuous use of visual guidance, visual task analysis resources, use and reminding of sequence lists and repeated whole group and individual demonstrations were needed to achieve sessions content understanding, engagement and interaction.

5.6 Findings

After implementing the curriculum, the first time and evaluating it formatively, I arrived at the findings and recommended changes for the next research cycle.

The team's and my own analysis and reflections on the four sessions identified some specific issues regarding: i) content and instructional media and resources; ii) learning objectives; and iii) instructions and strategies.

The findings and changes recommended by the teachers and the researcher are as follows:

- In the first session a second iPad is needed so children to work in pairs at the same time and provide more opportunities for social reciprocity and interaction between the children.
- It is recommended children to model the characters of the story in pairs, in the second session, to enhance give-and-take interactions and share of enjoyment and achievement.
- A “magic arm” which is an iPad accessory is needed to stabilize it on the table, so children safely to access the iPad for the video animation, in the third session.
- Specific differentiated learning objectives are needed to be set for the children with autism targeting at improving their social interaction skills and task participation, specifically in the second and third sessions.
- The visual teaching method needs to be improved and followed through all four sessions, regarding the use of: i) visual aids and prompts to help the children with autism to process and retain task content information

better as opposed to verbal information; ii) whole group and individual demonstrations to facilitate a better understanding of the task process in each session; and iii) sequence lists to facilitate give-and-take and turn taking interactions.

After implementing and formatively evaluating the curriculum unit, I made the above changes to the curriculum unit before implementing it again and teaching it in the four group of children in the next research cycle.

CHAPTER SIX

RESEARCH CYCLE FOUR: IMPLEMENTING AND EVALUATING THE REVISED VISUAL ARTS CURRICULUM UNIT SUMMATIVELY

6.0 Introduction and Aims

This chapter describes the second implementation of the revised visual arts curriculum unit. Research cycle four constitutes a sequence of the actions from research cycle two, which was the trial of teaching the intervention in only one group of children. The visual arts curriculum unit was carefully evaluated and revised, regarding the learning objectives and the use of resources and materials, before it was implemented again. In the current research cycle, the intervention consisted of four sessions and was taught in four groups of children separately (each group consisted of one child with autism and three ‘typically’ developing peers).

The hypothesis of this research cycle was that when the early years teacher involves the use of an iPad in a visual arts teaching process, particularly in the form of a digital storytelling and stop-motion animation, then children on the autism spectrum may display spontaneous interaction with their peers and in task participation. So, the overall aims of this research cycle were: i) to use the iPad and stop-motion animation efficiently; ii) to create opportunities and test ways that could help the young children with autism to improve their social interaction skills and promote their participation on a level of sharing enjoyment with their peers or teachers; and iii) to succeed in task performance.

The chapter begins by reporting on the roles of the participants and the procedure agreed upon by the action team before implementing the revised curriculum unit.

Describing the sessions then follows. Each description is followed by the action team's evaluation and researcher's reflection.

6.1 Participants-Roles

6.1.1 Participating Children

A group of sixteen young children, aged between four and six years old (four children with autism and twelve 'typically' developing peers), took part in the sessions. The children were divided into four groups (one child on the autism spectrum and three 'typically' developing peers for each group) by the headteacher and the special needs teacher. Each group of children participated in the sessions in a classroom, in their reception unit, during their regular school days. The children on the autism spectrum were referred to in this chapter by the pseudo names of Rebecca, Peter, Clare and Isabella. Peter is the same child on the spectrum who also participated in the previous research cycle; for Peter this was his second time participating and interacting within the revised curriculum unit in the current research cycle.

6.1.2 Researcher

I adopted the role of participant observer and taught the visual arts-based intervention to all four groups of children. My data collection instruments were researcher observation, an observation list and a video recording of all four sessions for each group using two static cameras. Video has been used in this research cycle as a tool to record and study social interaction and task

participation and in particular facial expression, non-verbal behaviour, movements and gestures, eye contact, evidences that would support as well on measuring enjoyment and participation. It was essential for me as a researcher but also for the action team to take into consideration how the cameras would be used in order to minimise any influence on the children. So, in the current research, the cameras were carefully positioned so as to be the least visible to the children who nevertheless were aware of their presence.

6.1.3 Action Team

The head teacher, the special needs teacher and I agreed to work together as the action team and arranged to implement the revised unit in May 2015. The head teacher and the SEN teacher were present in the classroom (the SEN teacher was present while teaching in the first two groups of children and the head teacher in the other two groups of children), acting as both an assistant and participant observer, using an observation checklist I had prepared in advance. The head teacher and the SEN teacher are referred to in this chapter by the pseudo names of Anna and Mary respectively.

6.1.4 Procedure of Action Team

Before implementing the revised visual arts curriculum unit, I visited the reception classroom at the beginning of May 2015 to meet Anna and Mary in order to discuss the procedure of the intervention's implementation and present to them the revised unit and the observation lists, translated into Greek. Both the

teachers and I agreed that the four sessions would be taught to all four groups of children consecutively over four different days. This decision was made because of i) the limited time of the teachers (the end of the school year was approaching), and ii) in this way, there would be a sequence of the sessions, where children would not forget what had been taught to them in the previous session.

Each session of the intervention was implemented on a separate day to all four groups of children (from 18th - 21st May 2015), as shown in table 6.1. Following each day, an evaluation meeting took place between the teachers and the researcher. We watched the video recordings of the sessions and we focused on specific extracts for recollection and documentation purposes and to achieve the reflection and evaluation that Elliott (1991) pointed out is necessary to reform any practice and lead to the summative evaluation and research findings. The researcher conducted further analysis and evaluation of all the data in order to arrive at answers to the research questions and conclusions as presented in the following chapter.

| Implementation of Visual Arts Curriculum Unit | | |
|--|---------------------------|--|
| Sessions | Date | Participants |
| Session 1: Introducing the iPad | 18 th May 2015 | <ul style="list-style-type: none"> - Researcher - Headteacher and SEN teacher (Anna + Mary) Group 1: - 1 child with ASD (Rebecca) <ul style="list-style-type: none"> - 3 ‘typically’ developing peers Group 2: - 1 child with ASD (Peter) <ul style="list-style-type: none"> - 3 ‘typically’ developing peers Group 3: - 1 child with ASD (Clare) <ul style="list-style-type: none"> - 3 ‘typically’ developing peers |

| | | |
|--|---------------------------|--|
| | | Group 4: - 1 child with ASD (Isabella) - 3 'typically' developing peers |
| Session 2: Modelling figures to animate (story line and action) | 19 th May 2015 | - Researcher - Headteacher and SEN teacher (Anna + Mary) Group 1: - 1 child with ASD (Rebecca) - 3 'typically' developing peers Group 2: - 1 child with ASD (Peter) - 3 'typically' developing peers Group 3: - 1 child with ASD (Clare) - 3 'typically' developing peers Group 4: - 1 child with ASD (Isabella) - 3 'typically' developing peers |
| Session 3: Animating and photographing the figures and completing the video animation | 20 th May 2015 | - Researcher - Headteacher and SEN teacher (Anna + Mary) Group 1: - 1 child with ASD (Rebecca) - 3 'typically' developing peers Group 2: - 1 child with ASD (Peter) - 3 'typically' developing peers Group 3: - 1 child with ASD (Clare) - 3 'typically' developing peers Group 4: - 1 child with ASD (Isabella) - 3 'typically' developing peers |
| Session 4: Sharing the video animation in the classroom | 21 st May 2015 | - Researcher - Headteacher and SEN teacher (Anna + Mary) Group 1: - 1 child with ASD (Rebecca) - 3 'typically' developing peers Group 2: - 1 child with ASD (Peter) |

| | | |
|--|--|---|
| | | - 3 'typically' developing peers Group 3: - 1 child with ASD (Clare) - 3 'typically' developing peers Group 4: - 1 child with ASD (Isabella) - 3 'typically' developing peers |
|--|--|---|

Table 6.1: Timetable for Research Cycle Four

Subsequently Anna and Mary introduced me to the whole classroom and to the participating children. Anna and Mary had decided in advance who the participating children were and had divided them into four separate groups (Table 6.1).

6.2 Description of Revised Visual Arts Curriculum Unit

6.2.1 Session 1, 18th May 2015

Title: Introducing the iPad

Aims: - To set safety rules

- To focus on the skills needed to appropriately hold and handle the iPad (how to drag and drop icons and access apps from the bookshelf, hand over hand instruction might be needed), (Aronin and Floyd, 2013)
- To demonstrate and introduce a selected app briefly and give children time to explore and engage with it in pairs.

Material/ Equipment: Two iPads

Organization of space: A five-seater table in the classroom

Time: 30-40 min.

Description of Session One for Groups 1-4

After completing free time activities, Mary (SEN teacher) and I assembled the four children of the first group and guided them to the classroom next to the reception unit. The same procedure was followed with the other three groups after completing the session with the first group.

In all four groups each time I asked them to sit at the table and showed them two iPad tablets, asking if they knew what they were. Then I introduced to the children some safety rules regarding their responsibilities for using the iPad during the sessions. The instructions regarding the safety rules were followed by visual images. Finally, the safety rules that were firstly introduced verbally but also through printed visual images were as follows:

- The iPad should be placed on the table only during the sessions and it should be covered in a safety case. Children are not allowed to remove the safety case.
- Children must use both hands when carrying the iPad. Furthermore, children are not allowed to carry the iPad and walk around the room.
- Heavy objects should never be placed on top of the iPad, nor should sharp objects be used on the screen surface.

After completing the safety rules and introduction, I demonstrated some hand instructions for appropriate use. I showed them how to drag the pages and icons on the screen and use their fingers to select an icon or open an application. More specifically, I showed the icon with the application that we would use and the

camera roll that we would use to take photos and save them. I introduced the children to the app “Lazoo: *Let’s Colour*”. This specific app was selected because it is easy in use and it offers three visual step instructions on how to use it.

Afterwards I explained to them that they would work in pairs, using one iPad for each pair. A specific turn-taking sequence was arranged from the beginning and a list was created with the two pairs and the children’s names on it.

Group 1

The child with autism (Rebecca) was using an iPad for the very first time. The rest of her peers had seen an iPad, but they had never used one before. Through the whole session Rebecca was on task without showing any sign of anxiety. She cooperated with one of her peers and she was the first to start. She needed adult guidance (hand over hand) to use her finger to open the specific icon and select the application. Once she had finished, I asked her to pass the iPad to her peer. She followed my instructions. In her second trial, once her peer had finished, she did not need adult prompting and she remembered the steps.

Group 2

When I introduced the iPads to the second group, the autistic child (Peter, who had participated in the previous cycle as well) tried to take one of the iPads and open the cover. The SEN teacher asked him to wait his turn. When I asked the children if they had used the iPad before, Peter answered ‘yes’. Peter worked with one his peers and waited for his turn. When he became anxious the SEN teacher showed him his name on the sequence list. When it was his turn, he needed some adult help. However, he quickly remembered all the action steps.

He used his finger to open the specific icon and select the application. He selected a picture to colour, choosing different colours using his finger and then took a photo of his drawing. Then I asked him to check the camera roll and see if his drawing was saved. Once he had finished, I asked him to pass the iPad to his peer-showing him the names on the sequence list.

Group 3

When I introduced the iPads to group four all the children showed excitement and they all wanted to take turns immediately. The child with autism (Clare) showed signs of anxiety and wanted to touch the iPad and the buttons on it. The SEN teacher asked her to wait and showed her the visual sequence list with her name on it. She needed adult help and guidance throughout the whole session for the 'give-and-take' and turn-taking interactions and the encouragement of eye contact to remain on task.

Group 4

The child with autism (Isabella) in group four showed excitement and did not exhibit any anxiety regarding the 'give-and-take' and turn-taking interactions. She understood the task and waited her turn to use the iPad and to draw on the application. She also interacted with her peer and drew with him on his drawing.

Action Team Evaluation

After completing the first session's implementation in all four groups, an evaluation meeting took place between the teachers and myself. We were all pleased with the session's outcome. After watching some extracts from the videos

of session one, we concluded that most of the children had learned a great deal about using the specific application on the iPad and in taking photos of their drawings and saving them in the camera roll and, most importantly, they had enjoyed the whole procedure. Finally, we all agreed that the continuous use of sequence lists helped the children with autism to remain on task, enhance their engagement and minimize their challenging behaviour.

Researcher Reflection

On reflection I concluded that this session was a success and the children were motivated, whilst the iPad provided reinforcement and was an interesting resource in engaging their participation in the tasks. Additionally, the choice of using two iPads facilitated children to work in pairs and get involved in social reciprocity. Both my whole group instructions and individual instruction helped children to respond well to the use of the iPad application.

6.2.2 Session 2, 19th May 2015

Title: Modelling figures to animate (story line and action)

Learning Objectives for all four children:

- To create three dimensional figures using plasticine.
- To mould small shapes out of plasticine and join them together to represent objects and figures.

Learning Objectives for the autistic children:

- To participate in the 'give-and-take' and turn-taking interactions with their peers, share materials and show interest in them.
- To learn to remain on task.

Materials: i) A4 size white papers, ii) coloured markers, iii) plasticine, v) photos of a school yard and figures made from plasticine, iv) a large piece of coloured paper

Organization of space: A five-seater table in the classroom.

Time: 40 min.

Description of Session Two for Groups 1–4

After completing free time activities, Mary (SEN teacher) and I assembled the four children of the first group and guided them to the classroom next to the reception unit. The same procedure was followed with the other three groups after completing the session with the first group.

Firstly, I explained to the children that the previous day's session helped them to learn how to use some applications on the iPad and that we would be using some specific applications such as the 'iStop Motion' application and the camera roll on the iPad to create our own story animation. But first they needed to model the characters using the plasticine and decide upon the actions, as well as create a scene in which the action would take place. My oral explanations were accompanied by a visual task analysis showing the steps of the session (story narration and drawings- creation of 2D plasticine figures- creation of the scene, placing the plasticine figures).

Then I started narrating a story to them (Appendix 17) and simultaneously I drew pictures of the story in order. My drawings constituted a visual aid for them to

subsequently create the characters of the story and decide upon the story line.

The characters of the story that I used were the four children from the group each time. The story was about four friends who were playing in the school yard.

Suddenly one of them heard a bird tweet near a bush, under a tree. They all approached the bush and found a little bird. The children shared ideas about what to do and how to take care of the little bird, following my guided questions.

Next, I explained that it was time to model the characters and the scene, which would be the school yard and some trees, the little bird, the sun or anything else they wanted in order to form the scene of the school yard where the action and furthermore the animation would take place. I showed them photos of a school yard and figures made from plasticine in the camera roll on the iPad. I also gave a whole group demonstration of how to model a figure and then I gave them plasticine in different colours to share. Mary and I also gave individual demonstrations when needed.

Group 1

Rebecca remained on task throughout the whole procedure of story narration and paid attention to my drawings. She needed adult help to form her figures. After completing her figure, the SEN teacher asked her what else she wanted to model but she did not respond. The SEN teacher suggested she form a tree and she nodded positively. She paid attention to her peers' figures and afterwards she followed the instructions to place her figures on the large piece of paper to form the scene.

Group 2

Peter appeared excited while listening to the story narration and looking at the drawings. He used the drawings as a template for making his plasticine figures. However, he needed some adult help from time to time to form his figures. At the end he interacted with his peer who was sitting next to him and they made a figure together. He seemed happy; smiling and moving his hands up and down. Afterwards he followed the instructions to place his figures on the large piece of paper to form the scene.

Group 3

Clare presented challenging behaviour and seemed quite anxious in the beginning of the session. Her anxiety continued through my story narration and only when I introduced the drawings did her behaviour change. She liked touching the markers and I asked for her help to pass me markers in different colours and she responded with the SEN teacher's help. She needed adult guidance during the entire second part of the session (to form her figures) due to fine motor skills difficulties. The SEN teacher used the visual task analysis through the whole process to show her the actions and reduce her anxiety.

Group 4

Isabella remained on task through the whole procedure of the story narration and paid attention to my drawings. Her engagement increased when I introduced the drawings and she liked touching the markers, just as Clare did in the previous group. Therefore, I asked for her help to pass me markers in different colours and she responded satisfactorily. She responded very well to the task of forming figures

out of plasticine; a little adult help was needed from time to time. She also exhibited interaction with her peers and teachers when she asked them for more plasticine in white and orange colours. Afterwards she followed the instructions to place her figures on the large piece of paper to form the scene.

Action Team Evaluation

After completing the second session's implementation in all four groups, an evaluation meeting took place between the teachers and myself. We were all satisfied on the whole with the session's outcome. After watching videos of session one, we all agreed that the visual task analysis of this session was necessary because this session consisted of three tasks (story narration- forming plasticine figures- creation of the scenery) and the children could easily become confused. We also concluded that although they all understood the story plot, they needed continuous adult verbal prompting to facilitate the sharing of ideas. Finally, we agreed that the plasticine was a reinforcing art medium and that the individual demonstrations had helped them enhance their fine motor skills and task engagement.

Researcher Reflection

On reflection I concluded that that this session was partially a success. The most difficult part, specifically for the children with autism, was to participate in brainstorming of ideas and in finding solutions on how to help the little bird. However, all of them had remained on task even if some of them had exhibited some challenging behaviour. The visual teaching approaches and the plasticine task facilitated them to remain on task and in some instances exhibit social

interaction with their peers and teachers especially when they shared the art medium to create their figures.

6.2.3 Session 3, 20th May 2015

Title: Animating and taking photos of the figures and completing the video animation

Learning objectives for all four children:

- To understand how stop motion animation works
- To use the App to create simple stop motion animation that has smooth and basic movements, using the figures they created in the previous session

Learning objectives for the autistic children:

- To demonstrate the ability to develop turn-taking interactions with their peers.
- To cooperate and collaborate with peers as a team to create a stop motion animation
- To learn to remain on task.

Material/Equipment: i) the school yard and the figures the children made on the large paper in the previous session, ii) the iPad and the iii) iStopMotion application

Organization of space: As before.

Time: 40 min.

Description of Session Three for Groups 1-4

After completing free time activities, Mary (SEN teacher) and I assembled the four children of the first group and guided them to the classroom next to the reception unit. The same procedure was followed with the other three groups after completing the session with the first group.

The children sat at the table and I explained to them the procedure for the day's session. Firstly, I showed them a visual task analysis of the session's steps (iPad and scene on the coloured piece of paper- moving figures- take a photo). Next, I placed the iPad in front of the scene (the coloured piece of roll paper with the figures in the school yard) so its camera could view the entire frame. I activated the 'iStop Motion' application and gave them instructions on how to move their figures and then take a photo. I selected a video animation I had created in advance with Playmobil figures and I showed it to them. I explained to them that they would make something very similar to the video animation they just saw. Afterwards we organized a taking of turn order and they began the movement sequence of their figures in turns. After each movement they took a single photo of each figure in the selected position and it was automatically saved in the camera roll. They moved the figures bit by bit, in very small movements each time. For example, the entire body needed to move if the figure was walking. They repeated the movement sequence until the action step of each figure was completed according to the story that had been decided in the previous session. At the end all pictures were saved on the iPad in order and the video animation was complete.

Group 1

Rebecca remained on task throughout the whole procedure of the video animation creation. She seemed to have understood the rules and instructions. She also responded well to turn-taking interactions while following the sequence list and waiting for her turn to move her figure bit by bit and touch the camera each time.

Group 2

Peter seemed anxious and exhibited some challenging behaviour throughout the whole process. Therefore, reminding him of rules and instructions was necessary to reduce his anxiety from time to time. He seemed excited, expressing his desire to move his figure and touch the camera constantly. Thus, the SEN teacher had to keep showing him the sequence list with his name on it. However, he was on task when it was his turn and he did not draw away from the group when it was not his turn.

Group 3

Clare remained on task throughout the whole procedure of the video animation creation. She seemed to have understood the rules and instructions. She showed excitement at the beginning of the session and she wanted to touch the camera roll button constantly. However, she responded well to turn-taking interactions after adult prompting and waited her turn to move her figure and touch the camera each time. She did need some adult assistance with fine motor movements of the figure.

Group 4

Isabella also remained on task throughout the whole procedure of the video animation creation. She seemed to have understood the rules and instructions too.

Some adult help was necessary to help her initially with fine motor movements of the figure. She responded well to turn-taking interactions and waited her turn to move her figure and touch the camera each time.

Action Team Evaluation

After completing the third session's implementation in all four groups, an evaluation meeting took place between the teachers and myself. We were all satisfied with the session's outcome. We all agreed that all four groups had had an opportunity to participate in a contemporary visual arts-making process. This session's content was new for all of them and it was the first time (apart from Peter) that they had tried to make a video animation using the 'iStop Motion' application. The combination of the traditional art medium of plasticine with the iPad expanded their skills in further developing visual art experiences.

Regardless of moments of their anxiety or excitement, they all remained on task and followed their order lists and visual task analysis tables. They succeeded in collaborating and creating a group visual arts outcome. Although the use of plasticine was already a fun and familiar activity for them, its combination with the iPad ensured their engagement in the task as well as their social interaction to collaboratively create the video animation.

Researcher Reflection

On reflection, I concluded that this session's outcome was a success in terms of its innovative content and resources. All the participating children seemed to gain

digital learning skills on how to use the ‘iStop Motion’ application to create a digital story. It was the first time for all of them participating in a new visual arts-making process. As Bolstad (2004) and Yuill and Rogers (2012) point out the use of ICT in early years settings not only offers cognitive skills and opportunities for educational practice, but also fosters social interaction development and stimulates creativity and play. On reflection I realized that both the content, and the iPad, as a resource in the third session encouraged the children to form a collaborative team and stimulated them to create a visual arts product, which resulted in a digital story.

6.2.4 Session 4, 21st May 2015

Title: Sharing the video animation in the classroom

Aim: -to be aware that their visual arts work can be exhibited to others

-to share, talk and express their interest about their art work

Organization of space: The main reception classroom- conversation niche

Time: 20 min.

Description of Session Four for Groups 1-4

After completing free time activities, Anna assembled all the children at the conversation niche. I sat in the centre and explained to the whole classroom that all four groups would present the work they had done with me, Mary and Anna in the previous days and that they could discuss or ask any question about it. We also placed in the centre of the conversation niche the four large pieces of paper with

the plasticine figures on them, representing the scenes from the video animations for each group. They all seemed excited and Clare grabbed her plasticine figure.

Three out of the four children with autism (Rebecca, Peter and Isabella) remembered the story line and how to open the iPad to show the video animation. Clare was off task but remained in the group, holding her plasticine figure. She was re-engaged when the time came to show the video animation on the iPad. Rebecca, Peter and Isabella showed an interest to show what they had made from plasticine when I asked them to. So, they pointed out their figures after some adult verbal prompting.

Action Team Evaluation

After completing the fourth session's implementation with all four groups in the classroom, an evaluation meeting took place between the teachers and myself. After watching some extracts from the video recordings of session four, we all felt partially satisfied with the session's outcome. We all agreed that the children with autism exhibited difficulties in social interaction and attention, thus preventing them from maintaining continuous task participation and non-prompted social interaction, more frequently than in the first three sessions. An explanation might be that the last session took place in the classroom with all the children participating and that there was no practical task during this session. The final session aimed to create a process of communication and interaction between the children of the group and the rest of the children in the main classroom. We recognized that specifically, the aim of the session was to form a dialogue as a motivation, praise and feedback on the children's artwork (Eglinton, 2003).

Although the children with autism found it difficult to share, talk and express their interest about their own and others' visual arts experiences, they did exhibit specific, small instances of showing their interest and understanding of the whole procedure of this visual arts process by displaying an interest in exhibiting their own artwork (plasticine figures) as a part of the final team visual art work.

Researcher Reflection

On reflection I recognized that this session's initial aims: i) to be aware that their visual arts work can be exhibited to others; and ii) to share, talk and express their interest about their art work, was difficult for them to attain. However, this session's process gave them an initial experience and empowered them with skills, attitudes and dispositions; such as participation, remaining on task, sharing and cooperation.

The final evaluation of the chapter and all the data and findings lead to the reflections reported in the next chapter and to a summative evaluation of the strengths and the weaknesses of the visual arts curriculum unit as a whole.

CHAPTER SEVEN

REFLECTION AND SUMMATIVE EVALUATION

7.0 Introduction and Aims

The formative analysis, reflection and evaluation of the data of all four research cycles and the design and implementation of the interventions reported in the previous chapters led to a final, thorough reflection on and evaluation of the data as a whole. I re-examined extracts of video recordings of lessons, observation lists and research action team evaluation transcripts from the first, third and fourth research cycles. I reviewed the thematic analysis emerging from all the sets of data and the findings reported in each research cycle. Then I revisited the literature review and searched for and reviewed theories of two kinds regarding: i) good practice in visual arts education and its impact on social interaction and task participation in children with autism and ii) the use of the iPad as an art educational tool and specifically, its use for teaching young children with autism. I felt that it was essential to review theories again because the data indicated new patterns about practices in visual arts education and teaching children with autism that I had not previously encountered. I found recent articles in *Art Education* and *Autism Journals* such as *Art Education* and *Autism* to be especially useful. The new theories facilitated deeper analysis of the data and evaluation of findings.

This procedure assisted me to decide on the reflective themes in order to formulate new theories arising from the data and extend my understanding of them, before I arrived at final conclusions. At this point, I considered it very important to reflect on the steps and decisions the action team made

collaboratively when we developed the curriculum unit so as to help me evaluate the success of: i) the strengths and weaknesses of the visual arts content on children's with autism knowledge of art and art practice, ii) the instructional methods and the resources I had chosen with the aim of improving their social interaction skills and task participation. In particular I wanted to establish the extent to which the iPad was an effective choice of resource for the aforementioned purposes and iii) I also set out to critique the action research process as a whole and assess its suitability for testing out and implementing this kind of curriculum unit.

Its strengths and weaknesses in helping me to achieve my research aims are discussed and presented under the following section headings: i) instructions and strategies for teaching young children with autism; ii) strengths and weaknesses of the content on the children's learning development; iii) instructional media and resources; iv) the educational value of the iPad on the children's learning and for enhancing social interaction and participation; v) strengths and weaknesses of the visual arts curriculum unit as a whole on the children's with autism social interaction and task participation and vi) of action research as a methodology for curriculum change. These themes were carefully selected to include the entire curriculum aspects of the current research; namely instructions and strategies, content, media and resources that altogether form the visual arts-based intervention and how this has positively influenced and enhanced children's with autism social interaction and task participation. The analysis and discussion of the specific themes that follow, inform the answers to the research questions and provide a basis for final conclusions and a framework for future research.

7.1 Teaching Visual Arts in Early Childhood

7.1.1 Why teach Visual Arts in Early Childhood Education?

The current international literature indicates that visual art education is central to educational practice within early childhood settings (Bamford, 2009, 2013; Wright 2012). The assessment of its educational value, reveals its potential for skills development, growth and learning in visual arts. Alongside ‘typically’ developing children, children on the autism spectrum also benefit from participation in art making and interaction with different art media (Kuo, 2015; Cevirgen, et al., 2018). Specifically, Cevirgen, et al. (2018) postulate that children who cannot express their emotions verbally, are able to express themselves with artistic activities and maximize their satisfaction, via creation of new products that are unique. My curriculum unit tested out the assumption that if young children with autism are allowed to participate in visual arts sessions, which develop their visual art skills and optimize their interaction during art processes, then these children might interact socially and achieve participation and inclusion. According to Kellman (2004), the condition for autism is man isolating. However, art education is hypothesized to alleviate this by initiating social interaction and participation. Dogutas (2017) highlights that the feeling of happiness and self-esteem derives by the feeling of each child making an art product, which then prompts the child to share this art product with her environment. Accordingly, the development of social interaction and socialization are possible. Additionally, Lowe (2016) considers that art rooms are mini social environments where children have the opportunity to move around and socialize with others. He further refers that the art room can give these children an opportunity to communicate and express themselves visually, and

advance their hands-on skills to increase their motor functions. Successful participation in art activities and through social interaction with other children, can enhance their condition and ease the built-up stress levels (ibid.).

The action research team observed that although the intervention content was new to all the participating children, they appeared to understand it throughout sessions. All children and especially those with autism participated and promptly adapted their behaviour to the new visual art content and process. The action team was surprised that the children with autism were able to use the iPad application and participated in the creation of a video animation as part of a team effort. The primary skills gained from their participation in this curriculum unit were early efforts for social interaction and task participation. Consequently, we concluded that young children on the spectrum should be given opportunities to further enhance skills through similar kinds of curriculum experiments in visual arts education.

7.1.2 Integrating Visual Arts into the Early Childhood Curriculum:

Approaches in UK, USA and Greece

Visual arts education has been considered vital within the early childhood curriculum in most western countries since the second half of the twentieth century. Baker's (1992) research in the USA revealed that half of the time spent in early years classrooms was dedicated to artistic activities. However, he found that they lacked value, quality and art educational benefits, and clear objectives. Recent studies have highlighted the importance of a child's rights to high-quality early childhood music, visual art, drama, and dance education, and to high-

quality arts education integrated into children's general early childhood education (Reynolds and Valerio, 2017). Researchers in the UK have observed an important shift towards better quality visual arts educational approaches and pedagogies for early childhood over the last two decades (Atkinson, 2002; Eglinton, 2003). My initial research into pedagogies within visual arts education, summarized in a systematic literature review, was essential to form a suitable theoretical basis for the design of the curriculum unit and its application to both young children with autism and 'typically' developing children. At this time, I embraced the notions and concepts of curriculum planning developed by Taylor (1986, 2000), Atkinson (2002), Eglinton (2003) and Hickman (2005). In particular I was influenced by Eglinton's (2003) analysis of the guided-exploration orientation approach that emphasizes the development of visual art skills and knowledge alongside awareness of art products and procedures. My purpose was to test within the visual arts curriculum unit, the growing perception of the guided-exploration orientation approach underpinning discussion of visual arts, not only as a practical procedure that children express their art practice, but also as a visual arts-based learning and development, with meaningful content and art media and resources.

When I reviewed the literature, I reflected on the significance of the recent shift of visual arts approaches in early childhood and how these affected the Greek Early Years National Curriculum. I studied research papers from Greece (Chrysostomou, 2007; Sotiropoulou and Trouli, 2015), to assess if and how they are implemented in reception units and eventually how they informed the visual arts intervention developed for my research. In the UK Atkinson (2002) refers to a pedagogical approach that differs from the Greek approach by not only

emphasizing the value of making art but also encouraging children to respond and acquire a broader understanding of their own art work in relation to others. This is a significant curriculum concept in the new National Curriculum for Art and Design in England (DfEE, 2013), which specifies objectives for learning skills, techniques and knowledge and attending to children's diverse learning needs. However, frequently early childhood teachers in the UK do not implement the new curriculum model, because they consider art as a sensory exploration instead of an opportunity for cognitive, aesthetic and perceptual growth (Atkinson, 2002; Eglinton, 2003). At the same time with a varied policy landscape in the USA for visual art in early childhood, McClure et al. (2017) assert that *'children need organized, materials-rich environments that invite discovery, interaction, sensory and kinaesthetic exploration, wonder, inquiry, and imagination. Children benefit from responsive educators who value young children's diverse abilities, interests, questions, ideas, and cultural experiences.'*

Sotiropoulou and Trouli's (2015) research carried out in reception units in Greece identified limitations in the teaching of visual arts skills, knowledge and development of reflective awareness and responses to art making. They remark that teachers do not receive sufficient training in arts education during their studies in the Faculties of Education. Chrysostomou (2007) for example states that the current quantity of visual arts courses taught to preschool and primary teachers at universities is insufficient and young teachers do not specialize in visual arts education. The action team participating in this research agreed with these findings, since during the evaluation meetings teachers expressed their concerns about the effectiveness of their visual arts activities' content, methods and resources. For example, during the second evaluation meeting at the end of

cycle one (March 2012, see Chapter 3.7) the action team noticed that there was a major need for art curriculum change to better tend to the needs of all children. On reflection they perceived that our limited theoretical and practical visual arts education background did not allow them to identify weaknesses in their visual art practices, act on them and take into account recent recommendations in arts education theory and practice. At that points the Atkinson, (2002) and Eglinton's (2003) discussion analysis regarding the guided- exploration orientation approach influenced me to develop a curriculum unit with an emphasis on the value of making art and provision of a meaningful content with art media and resources. Upon implementation of these current ideas about art curriculum skills, techniques and knowledge acquisition, I concluded that the investigation of new visual arts practises in the form of iPad applications and digital storytelling, allowed children to interact with and understand new aspects of the visual arts' early childhood curriculum. The story line, plasticine and the 'iStop Motion' iPad application provided children on the spectrum both traditional and new art media with recourses that assisted them to enhance their social interaction and participate satisfactorily within a class.

7.2 Instructions and Strategies for teaching Young Children with Autism

The formative findings, at the end of the second research cycle (see Chapter 5.6) were that the autistic child participant's visual skills helped him participate satisfactorily in most of the session tasks and that he had the ability to gain a better content understanding of each session through pictures. The teachers and I agreed that it was necessary to use and improve the visual teaching method for

the children with autism and enhance it with strategies throughout all four sessions, which would help them to participate and interact effectively. The strategies developed for this purpose were: i) the use of visual aids and prompts to help the children with autism to process and retain task content information better as opposed to verbal information, ii) whole group and individual demonstrations to facilitate a better understanding of the task process in each session and iii) the use of sequence lists to facilitate give-and-take and turn taking interactions. The strategies were used in all four sessions of the curriculum unit and were found to be supportive for reinforcing autistic children's social interaction and task participation (Table 7.1).

Before I developed the visual arts curriculum unit, I revisited and analysed scholarly articles about visual teaching methods that have a positive impact on effective participation and interaction on children with autism. Children with autism are characterised as visual learners; visual supports is recommended so as to help them understand and process information (Ozonoff, 1998; Hermelin, 2001; Geber and Kellman, 2010). During the evaluation meetings that took place at the end of the second research cycle (October 2013, see Chapter 5.4), when action team members engaged in reflective dialogue about the outcomes of the curriculum unit, we cited abilities and strengths of the individual participating children. The teachers referred to children's on the spectrum visual abilities to process information about the rotation and sequence of every day's classroom tasks through coloured pictures in Velcro strips to a board and being on task difficulties as outcomes of their everyday teaching practice with them as well. Their evaluations of their learning and behaviour helped me revise the visual arts curriculum unit, in terms of a more thoughtful use of the strategies applied during

research cycle three. Although the strategies used in research cycles two and three were the same, there were some alterations regarding the frequency in the use of the strategies in research cycle three. The findings showed that the children with autism looked often the visual images and the sequence lists so as to remember what they had to do during the task's lessons. Also, they responded well to the task of forming figures out of plasticine during individual demonstrations. For example, Clare often tried to place SEN's teacher hands on her artwork, seeking for help, because of her fine motor skills difficulties. On reflection the action team perceived that Clare's actions showed her interest in participating and regardless of her difficulties and anxiety, the strategies helped her participate satisfactorily.

My preliminary investigation of teaching methods had established that the use of strategies such as visual aids, teacher demonstrations and the use of sequence lists are helpful strategies for enhancing learning and participation (NAS, 2017). The data I collected using video recordings and observation lists and from evaluation meetings of the action team after each session in cycle three was used to evaluate the strengths and weaknesses of these strategies. The findings are the result of the action team's and my own attempts to interpret the descriptive data through analysis, by pointing the following questions: i) Why do the child participants act as they do, ii) What do their actions mean, and iii) How have these particular strategies affected their actions and in what degree. Thinking about these questions contributed significantly to achieving a better understanding of the strategies' strengths and weaknesses and identify behaviour patterns in children on the spectrum. During our final evaluation (May 2015, see Chapter 6) in cycle four, the action team agreed that the use of these strategies

had been effective overall in limiting the autistic children’s challenging behaviour and anxiety. They helped them to understand the verbal information given at the beginning of each session and retain this information throughout. Although some of the children exhibited minor anxiety at times, showing the visual images often or using interactive demonstration helped them sustain their attention within the tasks (Table 7.1). The behaviours and responses of children with autism and their participation, social interaction and learning are presented in the following table.

| Behaviours/Responses of Children with ASD to Strategies | | | | |
|--|---|---|---|---|
| | Rebecca | Peter | Clare | Isabella |
| Visual Aids/Prompts | <ul style="list-style-type: none"> - Exhibited no challenging behaviour - Understood all the tasks and rules in all the sessions - Understood the story line (Session 2) - Showed interest in the story narration (Session 2) | <ul style="list-style-type: none"> - Exhibited limited challenging behaviour - Understood all the rules in all the sessions - Understood the story line (Session 2) - Seemed enthusiastic and on task after the teacher started making the drawings (Session 2-story line narration) - Used drawings that the teacher made during the story line narration as a template for making his Plasticine figures (Session 2) | <ul style="list-style-type: none"> - It was necessary to show her the visual aids from time to time, to sustain her attention within the task - Repetition of instructions was necessary, to help her understand all the tasks and rules - Understood the story line (Session 2) - Seemed enthusiastic and on task after the teacher started making the drawings (Session 2-story line narration) | <ul style="list-style-type: none"> - Exhibited no challenging behaviour - Understood all the tasks and rules in all the sessions - Understood the story line (Session 2) - Showed interest in the story narration (Session 2) |
| Practical Demonstrations | <ul style="list-style-type: none"> - Responded very well to the use of iPad applications (Sessions 1,3) - Responded satisfactorily to the task of forming figures out of | <ul style="list-style-type: none"> - Responded very well to the use of iPad applications (Sessions 1,3) - Responded satisfactorily to the task of forming figures out of | <ul style="list-style-type: none"> - Responded very well to the use of iPad applications (Sessions 1,3) - Responded well to the task of forming figures out of Plasticine, only with | <ul style="list-style-type: none"> - Responded very well to the use of iPad applications (Sessions 1,3) - Responded satisfactorily to the task of forming figures out of |

| | Plasticine (adult help was needed from time to time) (Session 2) | Plasticine (adult help was needed from time to time) (Session 2) | adult's help, because of fine motor skills difficulties (Session 2) | Plasticine (adult help was needed from time to time) (Session 2) |
|----------------|--|---|--|--|
| Sequence Lists | - Exhibited limited challenging behaviour regarding turn takings and give-and-take interactions (All 4 sessions) | - Exhibited limited challenging behaviour regarding turn takings and give-and-take interactions (All 4 sessions) - Was last in the list to use the iPad (Sessions 1,3) - Waited his turn although he seemed impatient at times (Sessions 1,3) - Seemed enthusiastic when his turn came (Sessions 1, 3) | - Exhibited some challenging behaviour regarding turn takings (Sessions 2,3,4) - Reminding of sequence list was necessary to reduce her anxiety from time to time (Session 1-use of iPad) | - Exhibited limited challenging behaviour regarding turn takings and give-and-take interactions (All 4 sessions) |

Table 7.1: Behaviours/Responses of Children with ASD to Strategies

7.2.1 Significance of Visual Aids and Prompts

Visual aids were used for three purposes: i) manage challenging behaviour, ii) motivating to participate and iii) finally to focus, understand sessions' content and sustain attention within the tasks in the sessions. It may be difficult for many children on the autism spectrum to accept and understand key concepts or changes between learning activities and within. Sometimes this may cause challenging behaviour, anxiety which leads to reduced participation in a task (Howlin, 2004, NAS, 2017). According to Hayes *et al.* (2010) and Schaefer *et al.* (2015) visual supports can help to reduce many of the challenges that they encounter. These can take the form of images or objects that, as visual representations, help to explain a task or steps in an activity. In the curriculum the visual aids used the form of a visual task analysis, drawings and photos. For instance, a visual task analysis was used in each session to help children

remember the steps in certain tasks and the safety rules for the use of the iPad in Session one. The drawings the teacher-researcher made while narrating the story were intended to help children understand the sequence and the plot and represent them visually. Photos of 2D and 3D plasticine figures were used during session two to help children model their own figures. On reflection, I perceived that the participation of children with autism was appropriate in all sessions; many of their previous challenging symptoms were reduced and most of them responded well to the tasks in all the sessions. The other teachers and I agreed that they appeared motivated and showed interest in participating in the group work and seemed to understand and remember most tasks in the sessions. Furthermore, the interaction between children was successful when the teacher-researcher used repetitive verbal instructions and questions in order to achieve the children's understanding of the tasks and group interaction (Table 7.1).

7.2.2 Benefits of Whole Group and Interactive Demonstration

Demonstration in visual art teaching involves presentation in the form of a physical or actual practice by the teacher, so as to improve children's understanding of the concepts in a session, methods and a specific visual art process. According to Echhoff (2008) and Knight (2010) when teacher demonstrations are used in combination with viewing art and making experiences, this enhances children's skills and facilitates their participation in the process. Summative findings from this research support this view in that the children on the spectrum responded very well to both of the use of the iPad applications and of plasticine to mould figures, following the teacher-

researcher's demonstrations. In this research whole group and interactive demonstrations were employed to show and explain to children the use of the iPad and how to use their fingers across the touch screen (Chapter 6, Sessions, 1 and 3) and how to use plasticine to form certain kind of figures (Chapter 6, Session 2) and then to move and animate them (Chapter 6, Session 3).

Additionally, a demonstration in the form of a video animation using Playmobile figures, the teacher-researcher created in advance, was shown to the children as an outcome example in session three (Chapter 6, Session 3). The collaborative team understood all these demonstrations to have a positive effect on the tasks and understanding of visual art techniques by the children with autism and also enhancing their attention. Specifically, it was concluded that the interactive demonstrations between the children with autism and the SEN teacher or the teacher-researcher were proved essential and more effective due to children's with autism fine motor skills difficulties, in limiting their anxiety and enhancing their skills in the use of Plasticine and iPad applications (Table 7.1).

7.2.3 Sequence Lists

According to The National Autism Society in the UK (2015), organizing and prioritizing tasks and steps within lesson activities helps children on the autism spectrum to minimize their anxiety, understand what is going to happen next and realize the concept of time (NAS, 2015). For this curriculum unit, I developed and used turn-taking sequence lists with the names of all the children participants written on them, to arrange turn takings in the use of the iPad (Chapter 6, Session 1) and for moving the plasticine figures so as to create the video animation

(Chapter 6, Session 3). On reflection, the action research team concluded that sequence lists played a key role in reducing children's on the spectrum anxiety about timing tasks concepts and to interact satisfactorily in turn taking and in give-and-take processes within sessions (Table 7.1)

7.3 Strengths and Weaknesses of the Curriculum Unit

7.3.1 Formulating the Learning Objectives

As an early childhood and special needs teacher specializing in visual arts teaching, I studied and implemented the UK and Greek National Curriculums for early childhood and concepts of visual arts education in the early years, in both 'typically' developing and SEN groups of children, including children with autism. However, I was never involved in developing a new curriculum, until my participation in this research. Thus, before developing and writing the curriculum unit, I had to research and review relevant literature on curriculum planning, in order to create an effective framework and design that met the needs of children with autism; this was underpinned by contemporary values and concepts of visual arts education. My role as a non-participant observer during the first research cycle facilitated the recognition of the research problem and allowed me to identify the need for major changes in the early years visual arts education in the Greek reception school, where this research was undertaken.

The emphasis in the design of the first curriculum unit draft was given to the sequence of steps and development of lesson activities that were suited to reception children and complied with the specific needs of children with autism. According to Guay (2006), Gerber and Kellman (2010) and Coleman and Cramer

(2015) an understanding of adapting curriculum and instructional methods are necessary to facilitate the active participation of all children, including those with autism and a variety of learning challenges. I embraced Messiou's (2019) statement that inclusive education is an ongoing process of identifying and removing barriers to the participation and learning of all school children. In the end I chose to develop and implement a visual arts curriculum unit that placed the needs of children with autism at the core of this research. I particularly valued Coleman and Heller's (2009) view that modifications to core tasks are necessary to alter the performance of standard-based skills and for all children with special needs to participate fully. On reflection, the action team concluded that specific learning objectives for children on the spectrum better support the national standards (New Greek National Reception Programme, 2012) and inform the required modifications for the design and development of the curriculum unit. After implementation of cycle one, two discussion meetings (March 2012, see Chapter 3.9) among teachers and myself, identified the need for a thoughtful consideration of learning objectives and their differentiation for children on the spectrum to help them achieve the defined goals according to their abilities and skills. We agreed that major changes were necessary, within the visual arts curriculum as a whole and the content and learning objectives of the curriculum unit, in order to enhance the children's visual understanding, collaborative work, levels of participation and finally art appreciation (Taylor, 1986; Atkinson, 2002). After the second application of the unit, we assessed the key content and learning objectives alterations needed. We concluded that the effective task participation and understanding of children with autism is impacted to some degree by the team's effort and collaboration upon application of these

modifications. Guralnick and Bruder (2016) mention the importance of such modifications and specifically, set specific inclusion goals for young children, that teachers should always consider (e.g., access, accommodation and feasibility, developmental progress and social integration).

In this research, the national standards for the New Greek National Reception Programme (2012) in visual arts education and the learning procedure for children with autism were considered and followed by the action team. The national standards were the foundation for the assessment criteria in order to differentiate the learning objectives for children with autism and their peers. Gaining a clearer and deeper understanding of possible content for visual art activities helped me develop the instructional sessions and make teaching decisions regarding the formation and differentiation of the learning objectives. The learning objectives were shaped in part by the participants and also by literature on contemporary visual art practices and approaches in early childhood. For example, the learning objectives for all four sessions were built on the curriculum content and linked to the development of specific art skills, creation and exploration within the production of art work, as well as appreciation and discussion about the final visual art product (Efland, 1990, 2002; Bredekamp, Copple & NAEYC, 1997). However, the second and third sessions also included differentiated learning objectives for the children with autism targeting specifically an improvement of their social interaction skills and task participation. The intention was to articulate objectives that would not only reinforce visual arts knowledge and practice but also empower them with skills, attitudes, dispositions and habits of mind. These were participation, remaining on

task, sharing, cooperating and collaborating with peers and accomplishing the attainment of skills that will be used throughout the lifelong learning process.

7.3.2 Visual Arts Curriculum Content

The content of the intervention was interdisciplinary and combined traditional and contemporary arts practices, media and resources. The media and resources used were a story line, coloured markers and white paper used by the teacher-researcher, the traditional art medium of plasticine and applications of the iPad. Four separate sessions took place with small groups of children as reported in chapter four. The purpose of the first session was to introduce the iPad and its functions to all children and time was set aside for them to explore and engage with it. In the second session, the teacher-researcher narrated the story, while drawing pictures of it and the plasticine was used to form the characters in the story (2D figures). The focus of the third session was the creation of a digital story using the iStop Motion application. Finally, the fourth session featured an exhibition and ensuing talk about the final art product with the whole class.

The content of the first three sessions and the teaching strategies appeared to increase both social interaction and task participation of most participants. The main objective was setup a technological and visual art learning environment that would stimulate children, retain their interest throughout sessions and provide them with meaningful visual art skills. The action team observed spontaneous times of enjoyment and interaction between the children and in task participation throughout the implementation. For example, in session two Peter remained on

his seat after completing his task (i.e., form the figure) and observed his peers moulding the plasticine. Also, Isabella interacted with her teacher and peers asking for plasticine in different colours to finalize the shape of her figure. Additionally, all four children on the spectrum showed their excitement in sessions one and three, when they moved their hands up and down and smiled, and during their turn to use the iPad. The action team commented on these behaviours, while observing extracts of video recordings during reflection and evaluation meetings at the end of Cycle three (May 2015), as initial attempts of children to respond to their own artwork in relation to others' and show their interest for new media and resources. At the end we agreed that the children with autism appeared to be positively encouraged by the content of the sessions. Generally speaking, they were able to follow instructions regarding the use of iPad and further developed their visual arts skills through the use of plasticine, in spite of their initial difficulties. Their social interaction, task participation, visual art learning development and motivation seemed to be enhanced, although the action team identified some aspects that were less successful. There were occasions where they were distracted and off task and when the SEN teacher had to adopt a supportive role, and use both visual aids and verbal instructions, as reminders of the steps required in the task. For example, all four children on the spectrum were sometimes off task during the story narration (Session 2) and during turn takings to moving their figures for 'iStop Motion' (Session 3). On reflection I realized and the teachers agreed that the duration of story narration was long and the children with autism had difficulty in sustaining their interest throughout that session. The task of sharing ideas how to end the story and how children could have helped the little bird appeared difficult for them due to their

limited ability to interact verbally. However, the teacher's drawings helped them understand the plot of the story and re-engage. We concluded that it would be helpful if the brainstorming of ideas at the end of the story was kept shorter and with a specific ending to facilitate children's with autism full task engagement. Additionally, incidences of off task behaviours occurred during animating and photographing the figures, and completion of the video animation (Session 3). The four children in each group had to wait enough, to take turns and take several photos, using only one iPad (Session 3). We realised that separating each group into pairs and using two iPads, regarding session 3, to minimize their waiting time, would have reduced the anxiety of children with autism. Hence, it is important to point out that for future implementation of the intervention, the teachers involved will need to consider and allocate more time to practical work for children with autism to eliminate challenging behaviours.

Regarding the main strength of the visual arts content, I embraced the notion of providing contemporary visual arts content including detailed lesson plans and a good choice of suitable visual arts media and resources that foster children's visual arts making. The rapidly changing field of early years education in all learning domains has affected the content of early years visual art curriculum as well. Lindsey (2016) and Dunn and Wright (2015) mention the importance of extending young children's capacity to develop visual art skills and knowledge through high quality art experiences and continuous observation, modelling and instruction. However, it is essential to maintain and up-to-date knowledge of teachers' visual arts pedagogy to effectively incorporate visual art learning into the learning environment as a whole. On reflection, the action research team perceived that the use of the traditional medium of plasticine along with the use

of the iPad and its applications for digital storytelling provided both the children with autism and their peers with a gradual exposure to new visual arts learning and making process. The children participating in the research, developed through observation and instruction their fine motor and modelling skills, by using plasticine to create 2D figures. They appeared to have learned how to collaborate on animating these figures for the purposes of further creating a digital storytelling animation. The team concluded overall that the content of all four sessions, in combination with the selected art media and teaching strategies, increased children's understanding of meaningful and new visual arts making. Baum (2017) alleges the requirement for arts educators and early childhood educators to examine the alignment of their belief systems and focus on: i) the importance of young children's art experiences relative to their brain development, ii) educating the whole child, and iii) offering high-quality, learner-centred early childhood art experiences for each young child's construction of knowledge and skills. Thus, we were pleased that the intervention enabled children to understand that using the figures, made by the traditional plasticine medium used in their everyday art tasks in classroom, created a short digital storytelling animation; this was a new visual art practice for them, since the current intervention was applied.

7.4 Instructional Media and Resources

7.4.1 The Story Line

Researchers in education have pointed out the importance of narratives for the development in literacy and reading skills in young children (Catts *et al.*, 2003; Griffin *et al.*, 2004). Telling stories in class engages young children in the

literacy process. Jalongo (2003) notes that story narratives provide a meaningful context for concept development and understanding. Thus, children begin to understand the sequential form of stories; each story has an order of beginning, middle and end, where different events occur in-between. Different types of narratives can be used to enhance concept formation in young children. Such stories are the personal narratives, which are based on children's experiences and well-known environments and are related to their social interactions (Stadler and Ward, 2011).

The story developed and used in this research, was about four friends in a school yard. The main characters were the participants; although the main plot of the story was the same, a few phrases as well as the pace of the story and the names of the characters were not the same in all groups. The purpose of using the children participants as the main characters in the story was to promote motivation and engagement for the children with autism. Alongside the story line, I made drawings while narrating the story, using markers on A4-sized white paper. The drawings with some key words, written on them, motivated the children with autism to participate and also understand the story's content and concepts (Table 7.2). The drawings and the simple plot of the story also facilitated the children to remember the content for the following sessions. However, it was difficult for the children with autism to participate in brainstorming for ideas when we were trying to find solutions regarding the end of the story. Thus, I used verbal prompts in the form of questions and guided answers (Table 7.2).

| Behaviours/Responses of Children with ASD to the Story Line | | | | |
|--|---|--|--|---|
| | Rebecca | Peter | Clare | Isabella |
| Session 2: Story line narration using drawings | <ul style="list-style-type: none"> - Seemed on task, did not draw away from the group - Drawings assisted in understanding story content - Exhibited limited verbal interaction - Adult prompting verbal interaction was necessary to facilitate sharing of ideas | <ul style="list-style-type: none"> - Exhibited limited challenging behaviour at the beginning of narration - Seemed enthusiastic and on task after the teacher-researcher started making the drawings - Exhibited limited verbal interaction - Adult prompting verbal interaction was necessary to facilitate sharing of ideas | <ul style="list-style-type: none"> - Exhibited some challenging behaviour at the beginning of narration - Seemed enthusiastic and on task after the teacher-researcher started making the drawings - Drawings assisted in understanding story content - Exhibited no verbal interaction and sharing of ideas | <ul style="list-style-type: none"> - Seemed on task, did not draw away from the group - Drawings assisted in understanding story content - Exhibited limited verbal interaction - Adult prompting verbal interaction was necessary to facilitate sharing of ideas |

Table 7.2: Behaviours/Responses of Children with ASD to the Story Line

7.4.2 A Traditional Visual Arts Material

The findings about art media derived from the first research cycle, when I was observing and recording the lessons taught by the head teacher and the special needs teacher and the activities that children were engaged in, in their leisure time, revealed that children usually used markers, tempera paints, brushes, plasticine, scissors and glue. During their leisure time, many children (both with autism and their peers) engaged in 2D and 3D plasticine constructions and modelling. Plasticine is an art material that is commonly used in early childhood environments and that is known to provide enjoyable and satisfying experiences for young children. Yet it is not considered just as a fun activity. As Swartz (2005) points out, a plasticine activity is a creative experience that provides

young children with opportunities for learning growth in many domains -social, emotional, language, physical, and cognitive.

In the current research, the aspect of children's social development through visual arts involvement and their interaction with specific art media were taken into consideration and regarded as being essential. The choice of plasticine as material together with the iPad as a resource was based on the previous research that suggest children can benefit from engaging in interacting with it and it can be a significant tool for development of cooperation and social relationships. The early learning standards of NAEYC & NAECS/SDE (2002) for example suggest that use of plasticine increases children's abilities to: i) sustain interactions with peers through by helping, sharing, and discussing, ii) use compromise and discussion in working, playing, and resolving conflicts with peers, iii) engage in give and take interactions and v) develop fine motor skills. In summary, the art medium of plasticine was selected as a stimulus resource for the children with autism in this research, for sharing and interactive trials, based on the observations in their natural setting during the first research cycle (Marzullo-Kerth *et al.* 2011).

Plasticine was used in the second session of the intervention, to create the scenery of the following session. The teacher and myself all noted that this part of the session appeared to be the most enjoyable for all groups. All four children with autism needed 1:1 guidance, in some instances, due to their fine motor skills difficulties. Yet all of them participated satisfactorily in that they were able to model 2D objects and figures and demonstrated some evidence of social interaction. For example, they shared the plasticine, asked for more plasticine in different colours and showed interest in their peers' figures. Additionally, three

out of four of the children with autism were continuously on task during the second part of the second session, while using plasticine (Table 7.3). On reflection, the action team concluded that this art medium is a stimulating and motivating resource for children with autism that facilitates their involvement in processes of visual art making and bidirectional interactions with peers and teachers.

| Behaviours/Responses of Children with ASD to Plasticine | | | | |
|---|--|---|--|--|
| | Rebecca | Peter | Clare | Isabella |
| Session 2 Task: Modelling figures and objects using Plasticine | <ul style="list-style-type: none"> - Seemed enthusiastic and on task - Adult guidance was necessary from time to time to help her model her figures - Showed interest in her peer's figures - Satisfactory outcome, enhancement of fine motor skills | <ul style="list-style-type: none"> - Seemed enthusiastic and on task - Adult guidance was necessary from time to time to help him model his figures - Drawings of story line were used as a visual support for modelling his figures - Finished his figure, remained in his seat observing his peer modelling her figure - Satisfactory outcome (enhancement of fine motor skills) | <ul style="list-style-type: none"> - Exhibited limited challenging behaviour - Adult guidance was needed during the entire task (fine motor skill difficulties) - She was off task at the end of the task - Satisfactory outcome, development of fine motor skills with SEN teachers' guidance | <ul style="list-style-type: none"> - Seemed enthusiastic and on task - Adult guidance was necessary from time to time to help her model her figures - Exhibited interaction with her peers and teachers, asking for more Plasticine in different colours, referring to what she was modelling - Showed interest in her peer's figures - Satisfactory outcome (enhancement of fine motor skills) |

Table 7.3: Behaviours/Responses of Children with ASD to plasticine

7.5 The Educational Value of the iPad

Information and Communication Technology (ICT) has marked a turning point in the field of education. Caldwell and Bird (2015) state that there is a rapidly

growing involvement of the use of technology in schools as new devices and tools have become available in recent years. The iPad was first introduced in the worldwide consumer environment as an individual tool, but it is being successfully implemented in schools as both a pedagogical and an administrative tool. It has become the most predominant device method to enhance teaching and skills (Flewitt *et al.*, 2014; Galloway *et al.*, 2015).

Regarding early years education, to date only small-scale research has been implemented that examines the integration of ICT in early years educational settings and its implications for strengthening many aspects of education practices (Gutnick *et al.*, 2011; Kerckaert *et al.*, 2015; Palaiologou, 2016). Since I began this research, the focus of recent researches into National Curricula in early years in Greece has shifted to the development of educational strategies that fully integrate ICT into classrooms as pedagogical tools (Palaiologou, 2016). Kerckaert *et al.*, (2015) distinguish two types of use of ICT in the early years education: 'ICT use that supports basic ICT skills and attitudes' and 'ICT use that supports contents and individual learning needs,' with the former to be implemented more frequently in the classroom. This suggests that ICT is often presented as a separate subject that fulfils the aim of developing learning and technological skills. However, when ICT is implemented in an interdisciplinary fashion, then it fulfils a holistic development of young children's education (ibid.).

In the current research, ICT was used as a pedagogical resource, in that children used a form of touch tablet technology (the iPad) to create a digital storytelling animation, which resulted in a visual arts product. All the participating children seemed to gain some digital learning skills on how to use the iStop Motion

application to create a digital story. They also got involved in an interactive procedure for narrating a story line and co-constructing it in the form of a digital slow-motion animation (Table 7.4). As Bolstad (2004) and Yuill and Rogers (2012) point out the use of ICT in early years settings not only offers cognitive skills and opportunities for educational practice, but also fosters social interaction development and stimulate creativity and play. On reflection the action team recognised that both the content and the iPad as a resource of the third session encouraged the children to form a collaborative team and stimulated them to create a visual arts product, which resulted in a digital story.

Yuksel-Arslan *et al.*, (2016) define digital storytelling as the outcome of a traditional story narration combined with digital technology. Robin (2008) mentions the significance of this kind of storytelling creation, for facilitating collaborative team work and interaction that increases children's information gathering and problem-solving skills. In this research, the creation of digital storytelling and the use of the iPad itself enhanced all children's motivation; all of them, including children with autism, remained part of the activity and they understood it as a collaborative effort.

According to Vygotsky's (1978) constructivist theory, knowledge is constructed through holistic activities. In this research, children were part of all sessions and production; they were involved in the entire process of narrating the story, using plasticine to form 2D figures (characters of the story) and finally creating the digital story, using the iStop Motion application on the iPad. On reflection, I identified that although children with autism initially presented difficulties in reciprocity and interactive tasks relying often on teachers' prompts, they were

facilitated and enhanced to gain a content understanding and increase their participation and engagement within their groups (Fenty and Anderson, 2016).

| Behaviours/Responses of Children with ASD to the iPad | | | | |
|--|---|--|--|---|
| | Rebecca | Peter | Clare | Isabella |
| Session 1: Introduce iPad, engagement with the <i>Lazoo</i> application | <ul style="list-style-type: none"> - First time engaging with the iPad - On task, remained in her seat during the entire task - Understood rules and instructions - Showed interest and interacted with her peer on the <i>Lazoo</i> application, give-and-take interaction | <ul style="list-style-type: none"> - Familiar with the use of the iPad - On task, remained in his seat during the entire task - Showed excitement and anxiety waiting for his turn (moving his hands up and down) - Understood rules and instructions - Showed interest and interacted well with his peer on the <i>Lazoo</i> application, some adult prompting needed for give-and-take interaction during the first trial | <ul style="list-style-type: none"> - First time engaging with the iPad - On task with adult prompting - Adult help was necessary to help her with fine motor movements on the iPad touch screen - Showed anxiety regarding give-and-take interaction with her peer | <ul style="list-style-type: none"> - First time engaging with the iPad - On task, remained in her seat during the entire task - Understood rules and instructions - Some adult help was necessary to help her with fine motor movements on the iPad touch screen - Showed interest and interacted with her peer on the <i>Lazoo</i> application, give-and-take interaction |
| Session 3: Digital Storytelling-Video animation, use of iStop Motion application | <ul style="list-style-type: none"> - Understood rules and instructions - On task - Responded well to turn taking interactions (waited her turn to move her figure and touch the camera each time) | <ul style="list-style-type: none"> - Reminding of rules and instructions was necessary to reduce his anxiety from time to time - Seemed excited and anxious, expressing his desire to move his figure and touch the camera constantly - On task when his turn was coming, he did not draw away from the group when it was not his turn | <ul style="list-style-type: none"> - Understood rules and instructions - On task - Responded well to turn taking interactions (showed excitement at the beginning but after adult prompt, waited her turn to move her figure and touch the camera each time) | <ul style="list-style-type: none"> - Understood rules and instructions - On task - Some adult help was necessary to help her initially with fine motor movements of the figure - Responded well to turn taking interactions (waited her turn to move her figure and touch the camera each time) |
| Session 4: Sharing of final art product in the classroom | <ul style="list-style-type: none"> - Remembered the story line and how to open the iPad to show the video animation - Seemed excited with the video | <ul style="list-style-type: none"> - Remembered the story line and how to open the iPad to show the video animation - Showed interest in showing his figure | <ul style="list-style-type: none"> - Off task, but remained in the group holding her Plasticine figure - Re-engaged when time came to show the video animation | <ul style="list-style-type: none"> - Remembered the story line and how to open the iPad to show the video animation - She showed what she had made with |

| | | | | |
|--|--|--|---------------------------------|--|
| | | and the video animation - Seemed excited with the video | - Seemed excited with the video | Plasticine, after adult prompting -She expressed the desire to open the iPad and show the video |
|--|--|--|---------------------------------|--|

Table 7.4: Behaviours/Responses of Children with ASD to the iPad

7. 6 Effect of the Visual Arts Curriculum Unit on Social Interaction and Task Participation on the Children with Autism

This research inquired into whether the visual arts curriculum unit could improve social interactions in children with autism and enhance their task participation.

The effect of the curriculum unit on social interaction and task participation of children with autism was also studied, as joint tasks and practices within interacting activity systems (Figure 7.1). The possibilities of activity theory (Engeström, 1999) and its claims about development influenced the present research. Engeström (1999) mentions the significance of analysing the interactions and contradictions between cultural artefacts, such as subjects, objects, environment, rules, mediation and human functions within their developing activity systems. All these elements are integral and inseparable components of their activity systems; each collective, artifact-mediated and object-oriented activity system is seen in its relation to the other activity systems. The process of analysis is a motive force for change and development that results in a new activity system as part of evolution (Cole and Engeström, 1993; Engeström, 1999).

In the present research, the new concept I foregrounded from activity theory (Engeström, 1999) is the role of cultural tools (e.g., visual art, iPad and digital storytelling tasks) to facilitate interactions among subjects (in this case, children with autism, their peers and teachers) and the motive objects of their activity (learning development, social interaction and participation of the children with autism). Artifacts such as the story line, plasticine, iPad and digital storytelling, were cultural tools used and adapted to foster learning development (Object 1, Figure 7.1) and enhance social interaction and task participation (Object 2,

Figure 7.1), via a process of constant co-evolution (Object 3, Visual Arts Based Intervention, Figure 7.1, adapted from Engeström, 1999, Third Generation Activity Theory Model). Hume et al. (2019) also allege the significance of environmental factors that impact on children in the autistic spectrum classroom outcome, such as social interaction. Their study provides outcomes that identify associations between social interactions with peers and environmental variables.

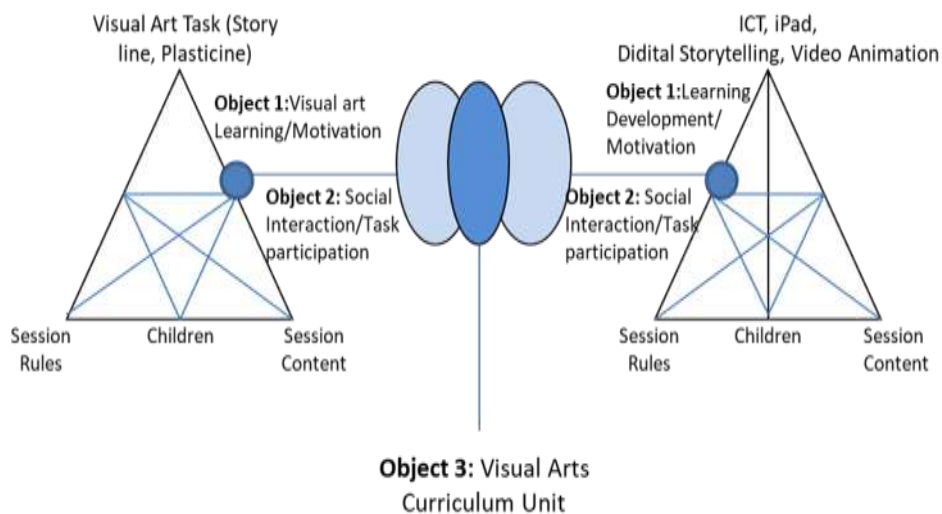


Figure 7.1: The Effect of Visual Arts Curriculum Unit (Adapted from Engeström, 1999, Third Generation Activity Theory Model)

All four children with autism, participating in this research, exhibited difficulties in some instances, in peer communication, limited social interaction and joint attention that prevented them from maintaining continuous task participation and non-prompting social interaction. These difficulties were evident in only a few instances during the first and the third research sessions, at the beginning of the second and more frequently during the last session. They appeared initially as specific behaviours of children with autism related to limited interaction and participation. However, after the introduction and content understanding of each

session in relation to the positive effect tools and approaches, these children with autism exhibited appropriate behaviours and participated effectively. Engeström (1999) argues that all practices are embedded in a cultural history that offers the promise of development of new forms of practice. This development constitutes the desired outcome of both individual and collective effort directed by motive objects within an activity system (Nuttall *et al.*, 2015). The motive objects (Objects 1, Figure 7.1) in the present research constituted specific tasks that were designed to provide force and direction for visual art learning and development in children with autism and contributing to the larger outcome (Objects 2, Figure 7.1) of fostering their social interaction and task participation. According to Engeström's activity theory, motive objects are regarded as "goal orientation" and are human practices directed toward desired outcomes in order to maintain a developed culture (Engeström and Kerosuo, 2007; Nuttall *et al.*, 2015). In this case, positive engagement of social interaction and task participation in children with autism were the desired outcomes of a sustained and developed culture of a visual arts-based intervention (Object 3, Figure 7.1).

7.7 Strengths and Weaknesses of Action Research and Curriculum Change

7.7.1 Choice of Action Research for Curriculum Development

My rationale for choosing action research as the research methodology is based on Carr and Kemmis (1986), Elliott (1991) and Robson's (2011) theories about educational improvement. According to Elliott (1991), action research is the study of a social situation with the view to improving the quality within it. It also unifies educational practice, curriculum improvement, development and

evaluation through a holistic and collaborative effort of practitioners and researchers. Action research is characterised by cycles of problem identification, systematic collection of data, reflection, critical analysis and redefinition of the problem. The linking of the terms ‘action’ and ‘research’ highlights the essential features of this methodology and renders the action as a form of disciplined inquiry, in which collaborative attempts are made to understand, improve and reform practice. Specifically, Elliott (1991) alleges that action research studies coupled with reflective practice finally led to the development of theories of education that are accessible to all teachers.

As a researcher and a teacher, I embraced the notion of action research as a methodology approach that is undertaken by a group of teachers (Cohen *et al.* 2007). In this case the group consisted of myself as a researcher and practicing teacher, the head teacher and the special education needs teachers of the target class in which the research was performed. This group worked in collaboration to develop, test out and implement the visual arts-based intervention targeted at children with autism. Consequently, the collective practice of the teachers had a significant effect on the methodology; collaboration was a central feature of it. I organised three cycles of action research and collaborated with the teachers on testing out and evaluating an intervention I had designed. On reflection I recognised that it would have been difficult for myself as a teacher-researcher to reflect upon and evaluate the action in all research cycles without the action team’s support and participation, so as to determine the strengths and weaknesses of the intervention and finally to proceed answering the research questions.

Throughout the research cycles I adopted three roles; researcher, curriculum designer and teacher. I concluded that the roles of researcher and curriculum

designer were more difficult for me to perform, whereas I felt more confident as a teacher because of my ten years' experience in teaching in the fields of early years and special educational needs. The roles of researcher and curriculum designer were new to me; so, I searched theories about good practice in visual arts education and the use of the iPad in a visual arts-based intervention and I designed an intervention from scratch. Although these roles were new for me, I felt that the choice of action research as a methodology was appropriate for testing out, implementing and evaluating an intervention in a familiar school environment and collaborating with teachers I had worked with in the past.

7.7.2 Reflective Practice and Teaching

According to Dewey (1933), reflection is a developmental thought process that mainly seeks for solutions and answers to how a problematic situation can be changed for the better. Later, Schon (1987) referred to the term 'reflection' as a quick sequence of actions involving activity, recognition, decision and adjustment toward spontaneous situations, which may be pleasant or unpleasant. For instance, in our daily life, we encounter unexpected circumstances and automatic action is essential for the best outcome. We may reflect during or after the action without thinking or interrupting. When we have to face such a situation and react in a reflective way, first we should confess the new phenomenon, and then take quick but responsible decisions that will probably lead to adjustable results. All these pleasant or unpleasant reflective experiences and actions give us the opportunity to invent new actions in our professional and especially educational area and also realize our errors.

Regarding the field of education, Schon (1983) mentions that being a reflective teacher, serves an important purpose, because it involves in central and essential ways changes to teaching, as well as the development of thinking about teaching. He added to Dewey's theory about reflection by making a distinction between reflection 'in action' and 'on action'. The former refers to the immediate actions that take place within the process of teaching or a lesson; while the latter is documented after a lesson and refers to the thinking about changes that need to be done for the teaching practices and lesson that will follow. As a teacher-researcher, conducting action research throughout specific, distinct research cycles in a classroom setting, I considered and actualized the processes of reflection 'on action' so as to understand, improve and reform practice and research. I tried to create a condition of ongoing self-inquiry and achieve reflexivity by continually asking questions about the teaching process and content in each research cycle. For example, I tried to write notes at the end of each session regarding the content, the process and the children's with autism behaviours and responses in the session. These notes alongside with the observation lists and video recordings helped the action team's discussion meetings to analyse practical problems, evaluate decision making and improve practice. Initially, I encountered difficulties in recognizing all the new concepts regarding action research in education, reflection and reflective practice. Soon I understood the significance of creating self-knowledge through reflective practice and continuous professional development, adopting both the roles of teacher and researcher (Bleach, 2013).

7.7.3 The Benefits of Collaboration

According to Carr and Kemmis (1986), action research is characterized by collaboration between teachers as a common effort to resolve an educational problem and improve educational practice. This notion underpinned the current research from the beginning of the procedure throughout all its research cycles. The current action research was an effort to enhance awareness and capability among subjects to collectively work together toward achieving practical outcomes. It was the collaborative nature of the methodology and commitment of teacher participants, including myself to this research methodology, that was crucial for its success. Specifically, Lau (2013) and Peterson et al. (2018) note that there should be a sense of reciprocity, as all who are involved willingly contribute their knowledge, experiences, time, and energy, and consider the goals and needs of each other and of the collaborative team as a whole.

Although it was my first participation in a collaborated-on action research and curriculum reform, the research had a significant impact on my own professional development both as a teacher and researcher. The systematic inquiry together with the reflective and evaluative meetings with the teachers were very important to its success. Although this collaborative team had worked together in the past, there were some difficulties at the beginning in scheduling appropriate time for our meetings due to differences in the availabilities of participants. I also perceived that not all the teachers were willing or able to involve themselves in critical evaluation and discussion meetings after each session, because it was a time-consuming task. Thus, only two evaluation meetings (March 2012) took place at the end of all sessions during the first research cycle. However, we all realized their importance, so following each day of sessions in research cycles

two and three (October 2013 and May 2015), we had evaluation meetings in which, video recordings of the sessions were watched with a focus on specific extracts, to arouse a recall and achieve the reflection and evaluation needed to reform practice and lead to a summative evaluation and research findings (Elliott 1991).

This collaboration was beneficial for my analysis and evaluation of all data to eventually answer the research questions and draw conclusions. Teachers' reflections and understanding of the collected data helped me assess the study findings from different perspectives and reduce the risk of researcher bias, regarding the effectiveness evaluation of intervention aims, content, instructional strategies and mediums with resources. The new ideas and assumptions that emerged from the collaborative meetings fed into my efforts to develop and test a visual arts-based intervention that could benefit other early years children with autism.

CHAPTER EIGHT

SUMMARY OF FINDINGS AND CONCLUSIONS

8.0 Introduction

In this chapter I present the findings and conclusions of this research. Firstly, I attempt to answer the research questions and report on my conclusions about what happened when the visual arts curriculum unit was implemented in the mainstream reception class and how the combination of traditional art medium and contemporary resources positively affected children's with autism social interaction and task participation. I also draw conclusions about the selection of "activity theory" as a theoretical model for analysing the effect of the visual arts curriculum unit as a whole. Then I reflect on the action research as a methodology for effective change in teaching children with autism in mainstream school through visual arts. Next, I report on the possible implications for practice regarding early years teachers and how they could apply potential visual arts education practices to achieve inclusion of young children with autism. Finally, further discussion is made about the contribution of this study to knowledge in this field and recommendations for future research.

8.1 Aims and Research Questions

This research aimed to develop, implement and evaluate the effectiveness of a visual arts curriculum unit for children on the autism spectrum, ranging from four to seven years in an inclusive reception unit in Greece. It sought to explore how young children with autism can benefit from visual arts sessions that include

the use of a story, the traditional medium of plasticine and an iPad in the form of a digital storytelling. The main focus was to inquire into whether or not these visual art sessions could improve their social interactions with their neurotypically developing peers and teachers and enhance their task participation.

During the span of the research, slight changes took place regarding the initial research questions, posed after revisiting the bibliography related to new possibilities for visual arts education in early childhood inclusive classes and autism spectrum disorders. I refined and revised my initial research questions and finally reduced them in number. Consequently, the broad question formulated at the beginning of this research was:

1. What changes if any are needed in early years art education in Greece to make it more inclusive of children with autism?

The specific research questions were:

2. What is the effect of the current art curriculum in the reception class of the County of Achaia Primary school in Greece on the autistic children's social interaction and task participation with peers and teachers?

3. Could a visual arts curriculum unit that involves a story line, the medium of plasticine and the stop-motion animation, with an iPad be effective in enhancing the social interaction and task participation of young children with autism and if so, in what ways?

4. Is collaborative action research an effective way to implement this kind of visual arts curriculum development in early years education in Greece?

8.2 Findings and Conclusions

8.2.1 Effect of Current Art Curriculum

“What is the effect of the current art curriculum, in the reception class of the County of Achaia Primary School in Greece, on the autistic children’s social interaction and task participation with peers and teachers?”

The participating children on the autism spectrum had the chance to participate in a range of unusual visual arts activities organized and implemented by the head teacher and SEN teachers in this particular reception unit. The teachers already viewed the visual arts education programme as central in their early years’ curriculum and, therefore, structured visual art lesson activities around drawing, painting, construction with plasticine, modelling clay and collage. However, the analysis of the data that derived from the diagnostic research cycle, revealed that overall, the visual art lessons had only a limited and less positive effect on their motivation, engagement and participation, social interaction and inclusion of children with autism. Although findings showed that the children on the spectrum enjoyed, using art materials such as tempera paint and brushes, coloured markers and plasticine, in specific instances during the lessons, it was difficult for them to maintain engagement and task participation. The teachers’ limited guidance and reinforcement led also to their limited interactions in the form of give-and-take and turn-taking with their peers and finally to an insufficient understanding of the content of the lesson at a positive rate and time duration with or without adult guidance.

The action team’s reflection on and evaluation of the data led to the findings which revealed assumptions such as the necessity for the use of i) visual

instructions and aids; ii) differentiation of learning objective; iii) teachers' instructions and guidance in small groups of children; and iv) contemporary visual arts reinforcement resources might have possible increased social interaction, task participation and inclusion in children with autism. The benefits of the use of visual instructions and aids have been extensively referred in the literature (Guay, 1995; Roger, 2010; Hayes *et al.*, 2010; Schaefer *et al.*, 2015). The visual supports had been found to be essential for reducing autistic children's challenging behaviour and anxiety that may encounter. Furthermore Martin (2009) and Roger (2010) stressed the importance of the teacher and special needs teacher's providing effective and modified learning opportunities and objectives, for children on the spectrum while they participate in visual art activities. In particular teaching in small groups and using reinforcements have been proved important aspects following autistic children's needs and abilities, attaining attention, practicing eye contact and turn takings (Stuart et al, 1995; Hermelin, 2001; Gerber and Kellman, 2010; Gerber, 2011).

8.2.2 Effect of the Visual Arts Curriculum Unit

“Could a visual arts curriculum unit in particular, one that involves a story line, the medium of plasticine and the stop-motion animation, with an iPad, be effective in enhancing the social interaction and task participation of young children with autism and if so, in what ways?”

The visual arts curriculum unit designed and implemented in this research involved four sessions which combined traditional and contemporary aspects of visual arts methods, content and resources with the aim of enhancing social

interaction and task participation in young children on the spectrum. The content of this curriculum unit consisted of: i) a story line as a resource tool; ii) the art medium of plasticine; and iii) the use of applications of the iPad as a tool and resources for the creation of a digital story. Alongside the above content, further instructional strategies were used to facilitate participants' content understanding, motivation and participation, such as visual aids and prompts, sequence lists and whole group and individual demonstrations. Finally oral discussions about the completed visual art works took place with the aim of enhancing interaction and participation, for the purpose of expressing interest about others' artwork and sharing within the classroom. The effect of each aspect of the curriculum as main findings and conclusions is discussed as follows.

8.2.2.1 The Story Line

The study has suggested that the story narration can be a powerful resource tool for enhancing task participation and motivation in children on the spectrum, especially if it is accompanied by visual aids or reinforcements explaining its content and enhancing children's attention. As revealed from the thorough analysis of the observations and evaluation of the data, three out of four participants on the spectrum remained on task during the story narration, but when drawings were created and used while the researcher narrated the story, they displayed very high motivation. Moreover, one participant on the spectrum showed anxiety at the beginning of the story narration, but did not withdraw from the group. Her attention and re-engagement were sustained only in the instances where the drawings accompanied the narration. This finding confirms those of

Jalongo *et al.* (2002) who have pointed out the significance of using illustrations in story narrations so as to increase enjoyment and understanding by children with special needs.

A finding from the final part of the story narration was that all four children with autism presented difficulties in sharing ideas and finding a solution for the end of the story. Deficits of children on the spectrum in verbal communication skills render it difficult to sustain a conversation on a developmental level (WHO, 2010). However, Ganz and Flores (2008) have claimed that the use of visual strategies and verbal prompts in having a positive effect on improving such skills in children with autism. The prompting verbal interaction applied in combination with visual support in this research, had a positive effect on the three out of four participants' attention and interaction in the form of one or two words of developmental dialogue.

8.2.2.2 Using a Traditional Visual Arts Material

Plasticine was found to be one of the most motivating and enjoyable tasks of the curriculum unit, with potential to enhancing the participants' fine motor skills development at the same time. All four children with autism were engaged on task throughout the entire process, with more or less adult guidance for each one of them. The learning objectives that were initially set for the children with autism in this task; i) to mould small forms from plasticine and join them together to represent objects and figures; ii) to participate in give-and-take and turn-taking interactions with their peers, to share materials and show interest in them; and iii) to learn to remain on task, were considered to have been

accomplished to a positive degree. Only one participant on the spectrum needed help during the entire modelling task, due to fine motor skills difficulties; none the less, the outcome was satisfactory. Three out of four children with autism needed adult guidance only in some instances; they completed their task with satisfactory outcomes, interacted with their peers in turn-taking and give-and-take of plasticine in different colours. Yet, one of the most important instances of social interaction in this task was when the three out of four children on the autism spectrum remained in their seats, observing, touching and showing interest in their peers' plasticine figures, even though they had finished their modelling. One explanation for this might be that because plasticine is considered as a highly preferred visual art medium among preschool children, opportunities for positive social interactions are increased (Reeve *et al.*, 2007; DeQuinzio *et al.*, 2008; Marzullo-Kerth, 2011). Similarly, in this research plasticine was found to be reinforcement stimulus for children with autism, one that motivated them to engage and complete their task.

8.2.2.3 The Educational Value of the iPad

International literature advocates the use of ICT as an essential resource for enhancing learning and development in young children (McKenney and Voogt, 2010; Fenty and Anderson, 2015; Nikolopoulou and Gialamas, 2015; Palaiologou, 2016). Similarly, technology-based interventions have been found to be effective in teaching skills in young children with autism, with social skills to be considered foremost for development (Grynszpan *et al.*, 2013; Pennington, 2010; Fletcher-Watson *et al.*, 2016). I read about and reflected upon a great deal

of literature in the beginning, before I developed and designed the visual arts curriculum unit about the use of the iPad in teaching preschool children and including young children on the autism spectrum. Thus, I expected the iPad would be a highly motivating resource for enhancing engagement and learning development in both ‘typically’ developing children and those on the spectrum.

The study revealed that the use of the iPad was indeed a highly motivating resource, at the same rate of motivation as was the art medium of plasticine. However, in some instances, regarding engagement on task and evidences of interaction skills development, the iPad has been the predominant indication resource throughout all groups of participants and sessions that it was used. The behaviour of participating children with autism suggested that they were excited about the use of the iPad, the *Lazoo* and *iStopMotion* applications. They also remained engaged in turn-taking interactions and they were benefitted in terms of their fine motor skills and learning development. Although for the three out of four participants on the spectrum it was the first time they had engaged with an iPad, they easily became familiar with its functions. Some slight adult guidance was needed with fine motor movements on the iPad touch screen at the beginning of the sessions. This finding is compatible with Murdock’s *et al.* (2013) research about the advantage of touch screen tablets, which constitute a positive early intervention for young children on the spectrum, such as the iPad as a highly motivating tool with close control of learning and development. Consequently, children on the spectrum effectively attained the learning objectives; i) understood how *iStop Motion* animation works, ii) demonstrated the ability to develop turn-taking interactions with their peers, iii) collaborated

with peers as a team to create a stop motion animation and iv) learned to remain on task.

The participating children's excitement was also reported in the final session of sharing the digital story telling - video animation as a group art outcome, within the classroom. However, the most difficult task for them was to satisfactorily accomplish the initial learning objectives: i) to be aware that their visual arts work can be exhibited to others, and ii) to share, talk and express their interest about their art work. Thus, teacher and researcher's verbal instructions and prompts were needed. Although they did not withdraw from their group, their re-engagement was sustained only during the screening of the video animation. Fenty and Anderson (2016) advocate that, young children in early childhood settings can benefit from the incorporation of digital narratives and be motivated to engage in classroom content and tasks.

8.2.2.4 Effect of the Visual Arts Curriculum Unit on Social Interaction and Task Participation on the Children with Autism

This research was premised on the notion that children on the autism spectrum benefited from participating and interacting within the visual arts curriculum unit. The findings revealed that children with autism were given the chance to participate in visual arts sessions, develop visual art skills and interact through art processes that facilitated them to interact socially and attain participation and inclusion.

The curriculum unit was considered as a whole as a set of interacting activity systems (Engeström, 1999); joint tasks and practices of story line, plasticine,

iPad and digital storytelling. All these tasks have been analysed and studied as integral and inseparable elements of visual arts and ICT activity systems and their effect on social interaction and task participation in children with autism has been observed in its relation to each other (Cole and Engeström, 1993). The intervention as a whole was found: i) to have a positive effect on the visual art and ICT, in the form of iPad and video animation and learning development; ii) to have reinforced social relationships and interactions with peers and teachers; iii) to have improved task participation and finally; and iv) to have achieved inclusion in participant children on the spectrum.

8.2.3 Effect of Collaborative Action Research

“Is Collaborative Action Research an Effective Way, to Implement this Kind of Visual Arts Curriculum Unit Development in Early Years Education in Greece?”

The research methodology applied in this study was qualitative in nature and took the form of action research, influenced by John Elliott’s (1991) model of action research for educational change. According to Elliott (1991), an action research approach which focuses on improving or changing educational practice and situations, involves a ‘spiral of cycles’ that include actions, reflections, evaluations and revisions. Similarly, in this research, I followed and implemented a spiral of action research in order to implement and evaluate a visual arts curriculum unit aimed at improving and positively changing participant children’s with autism social interaction and task participation. Firstly, I defined and analysed the practical problem; secondly, I designed,

implemented and evaluated an experimental curriculum unit only in one group of children with the help of participant teachers. Finally, I revised the curriculum unit before I implemented it in four groups of children and evaluated it with the teachers' help and ideas.

On reflection, I recognised that collaborative action research as a methodology was a valuable for this study and has also been beneficial for improving and changing visual arts educational practices suitable for teaching young children with autism, for both myself as a researcher and teacher and participant teachers. However, the experimental curriculum unit, developed for this research, would have benefited more with the implementation of more developmental and evaluative cycles, in which the Head teacher and SEN teachers test out and implement the intervention on their own. Although the limitation of time for conducting further cycles in this research was a weakness, the participant teachers' involvement in testing out and implementing the curriculum unit and then reflecting on and conducting evaluation meetings, was vital for the outcome of this research.

The process of collaboration was supportive for me through the development of conducting the research. Carr and Kemmis (1986) refer to the importance of collaboration among teachers, so as to improve educational practice. Typically, a team of teachers in action research identify a practical problem and try to find solutions. However, in this research it was only me at the beginning who identified a problem in an early years visual arts curriculum in teaching children with autism. Therefore, my role was that of both the lead researcher and a teacher, guiding the development of the 'spiral of cycles' including the actions, reflections, evaluations and revisions undertaken. I concluded that there were

times during the research that this lead role had both positive and negative effect on the procedure of the research. On one hand, as a lead researcher I felt free to organize and design many of the practical issues of the research, but at the same time my role as a guide, separated me from the team of the participant teachers. However overall, the action team considered of great necessity to understand the significance of mutual engagement so as to productively participate on reflection and evaluation of sessions following the teaching. The most important aspect of the collaboration was that each side of the partnership learned to respect each other's' assumptions, values and evaluations in a participatory process (Somekh, 2006). As Cowie et al. (2015) notes, 'the extent to which teachers are prepared to take risks, share their ideas, feelings and opinions depends on the nature of the relationship that develops between teachers and researchers. Mutual trust, respect and rapport are essential' (p. 269). In the end, I acknowledged how essential and important it was for me as a researcher, to collaborate with a team of teachers in order to look at the research data from different perspectives. Limited bias that might have occurred enabled me to identify the strengths and weaknesses of the new visual arts curriculum unit.

Although several changes took place during the research and among the action cycles, regarding the development of the curriculum unit, the use of specific resources, and specific roles of participant teachers, the researcher and the organisation of evaluation meetings at the end of sessions, there was enough flexibility in the overall design for rethinking, reflection and accommodation of changes between the action cycles. Finally, I concluded that action research was an effective way to develop and evaluate a new visual arts curriculum unit for improving educational practice, regarding enhancement of social interaction and

task participation in children on the spectrum. This study also suggested that action research has operated satisfactorily in a Greek inclusive reception class, under the effective collaboration of a team of teachers.

8.3 Implications of Teaching a Visual Arts Curriculum Unit to Young Children with Autism in a Mainstream Reception Unit

From the beginning of the research my aims were two-fold. On one hand my aim was to develop a visual arts curriculum unit and find ways that this curriculum could enhance autistic children's social interaction and task participation. On the other hand, the aim was to form such an action team of a general early years and SEN teachers, broaden their perspectives for teaching visual arts in the early years including children with autism and finally to collaborate so as to implement and evaluate this curriculum unit. The unit included the dissemination of new aspects about the value of making in art and a meaningful content with art media and resources, such as using a story line, plasticine and iStop Motion iPad application. All this new approach and the combination of these art media and resources were new to all of the members of action team.

In Greece, the Ministry of Education is the only formal organization accountable for developing the National Curricula applied in all educational settings and stages. There is no separate visual arts curriculum for early years in the Greek educational system. So, the area of expressive art and design is integrated in the main Early Years Curriculum (FEK B'304/8.08.2003). I recognised that developing from scratch a visual arts curriculum unit and teaching it to both 'typically' developing young children and those with autism, for the whole action

team was a challenge. Although we experienced some difficulties with the whole process of the action research, we all agreed that it was a new effort into teaching a visual arts curriculum in a mainstream and inclusive reception class and overall, it was worthwhile. Thus, the findings of the current research have identified implications for: i) classroom teachers; ii) implementing successful inclusion of young children with autism in mainstream setting; and iii) implementing action research in the form of a group of teacher's collaborations for improving practice in their own school setting.

8.3.1 Implications for Classroom Teachers

The participant teachers told me that they had gained new professional knowledge from participating in the implementation and evaluation of the new curriculum unit with their pupils. They evaluated it as productive and innovative for both the 'typically' developing children and the children on the spectrum and their own professional development. They felt more confident in teaching visual arts and responding to art curriculum change so as to counter better to the needs of all children. They also felt able to consider art in early years not only as a sensory exploration but also as a possibility for cognitive, aesthetic and perceptual growth; as visual arts-based learning and development, within specific learning objectives, meaningful content and art media and resources.

I understood that the teachers were pleased that this visual arts curriculum experiment had established a foundation for future practice for the children with autism to participate and a more successive inclusion of them in the mainstream classroom. The introduction of more contemporary form of visual art content,

and a combination of traditional and new art media and resources was understood to have had a positive effect on children's social interactions, task participation and visual arts learning development. This has important implications for further implementation of this particular visual arts curriculum unit since its content and strategies and media and resources could be used in the classroom or further developed towards related visual arts tasks, as follows.

- **Instructions and Strategies:** The strategies were used in all four sessions of the curriculum unit and were found to be supportive for reinforcing autistic children's social interaction and task participation. Visual aids and prompts, sequence lists and whole group and individual demonstrations could be effective during all reception activities:
 - For promoting understanding of a task; the rotation and sequence of every day's classroom tasks could be provided to the children on the spectrum, through coloured pictures in Velcro strips on a board.
 - For facilitating give-and-take and turn taking interactions; a list with the written names of the children or photos of them in a sequence helps autistic children to remember their turn takings during a task.
 - For facilitating their participation in the process; demonstrations help children on the spectrum enhance their skills and understand the process of a task. These demonstrations could take the form of a video using different objects or figures, or the form of actual interactive demonstrations, where children and teachers work together.

- **The Story Line:** Stories are known to fascinate children but also, they can discourage them from being on task during the narration, if they are not followed by enhancing reinforcements such as drawings, pictures, sensory objects or musical instruments (Marr et al., 2007). It was found in this research that although the participant children on the spectrum did not withdraw from the group during the narration of the story, they were not always on task, or did not understand its content until the drawings were introduced to accompany the narration. Art-based activities could be designed related to the content of a book or a story. These stories could take the form of social or sensory stories supported by stimulated objects so as to enhance and sustain children's with autism attention and support interaction and enjoyment (Marr et al., 2007; Park, 2013). Thereinafter visual arts activities could be designed including the creation of a scene from the story using plasticine, drawing scenes of the story to be used as backgrounds for role play with doll figures, or doing visual art crafts based on specific themes of the story.
- **Use of Traditional Visual Arts Medium and the iPad:** In this research the traditional art medium of plasticine was found to be a useful and stimulus resource for the children with autism. The use of the storyline alongside drawings proved to be stimulus resources for them so as to create their plasticine figures. The session including the art medium of plasticine appeared to be one of the most enjoyable for all the children on the spectrum. Traditional art media such as plasticine could be included in interdisciplinary activities that combine traditional and contemporary art

practices, media and resources. On the other hand, ICT and particularly specific applications of the iPad provide children with more contemporary opportunities in conjunction with visual arts activities. This interdisciplinary way of designing visual art activities using both traditional and contemporary media and resources could benefit children with autism:

- By stimulating their interest and motivation.
- By enhancing their social, fine motor and visual skills.
- By developing give-and-take and turn-taking interactions with their peers.
- By being exposure to new learning tasks and making processes.

The research findings indicate that teachers should encourage children in reception to engage with visual arts activities that promote collaborative visual art making processes, so as to enhance social interaction and task participation. In this study groups of ‘typically’ developing and autistic children got involved in an interactive procedure for narrating a story line and co-constructing it in the form of a digital slow-motion animation. As a consequence, they created a visual arts product, which resulted in a digital story. Thus, in future more teachers should create opportunities for testing out ways that could help the young children with autism to improve their social interaction skills and promote their participation on a level of sharing enjoyment with their peers or teachers and succeed task performance. Both general and SEN early years teachers should reconsider the value of visual arts and how it could increase children’s with autism levels of engagement and interaction within art.

8.3.2 Implications for Inclusive Practice

The visual arts curriculum unit designed, implemented and evaluated in this research was based on the premises of inclusion (i.e., removing barriers to learning, eliminating discrimination against SEN children, improving their educational outcome, recognising the differences in abilities and needs of each individual pupil), (Rose, 1998). The visual arts curriculum unit in this study was designed to meet the needs of all the participant children and accommodate them during the learning and participating procedure. The content and the learning objectives of all sessions were differentiated according to the Greek National Curriculum for special education in early years (2012). Additionally, the action team used and improved the existing visual teaching methods for children with autism and enhanced them with new strategies throughout all four sessions; these helped children to participate and interact effectively.

When teachers design activities for their mainstream and inclusive class, they should take into consideration the following key points:

- The wide diversity of characteristics and needs of children on the spectrum; thus, learning objectives and tasks can be differentiated to reinforce children with autism not only with knowledge and practice, but also to empower them with skills, attitudes, dispositions and habits of mind such as to participate, remain on task, share, cooperate and collaborate with peers.
- Approaches and strategies could be used to facilitate inclusion such as: i) use of visual aids and prompts, ii) use of sequence lists to facilitate give-and-take and turn taking interactions and iii) use of demonstrations to facilitate a better understanding of learning and making content.

- Children on the autism spectrum work and collaborate best in small groups of three or four. Art activities could be introduced to small groups (e.g., consisting of one autistic and two or three peers). The main purposes of working in small groups of children are: i) to enhance engagement in give-and-take and turn-taking interactions, and prompting or not prompting social interactions and communication and ii) reduce environmental stimuli that might impact on autistic children's task participation. However, art activities or a small visual arts curriculum unit could be introduced to a whole classroom, taking into consideration autistic children's needs and specific ways of learning (visual aids, task analysis of each activity, 'now and next' boards). In the case of whole classroom teaching, forming pairs of children (a typically developing child working together with a child on the spectrum) could be beneficial for social interactions, support, motivation and task engagement. Mastergeorge and Zagona (2018) and Kemp et al. (2019) advocate the significance of peer-mediated interventions that involve typical peers initiating and responding to the social interactions of children with ASD, thereby increasing the quality of these interactions.

- The visual arts-based curriculum unit could be used to complement storytelling and literacy besides visual arts. Data in the current research also shows that some children with autism are engaged during story narration and drawings made by the teacher and researcher. Such a visual arts curriculum including stories can be effective during literacy: i) by promoting understanding of verbal language and ii) by engaging and motivating children to take part in activities linked to a story. Teachers can use familiar stories through the visual arts curriculum unit to teach

verbal language, enhance literacy skills and memory through the use of story pictures and at the same time create an animation using the tablet.

8.3.3 Implications for Action Research

Although it was the first time for me as a researcher and a teacher to develop, test out, implement and evaluate a visual arts curriculum unit with the help of an action team, I felt that the choice of action research as a methodology was appropriate for achieving the aforementioned actions in a familiar school environment and collaborating with teachers I had worked with in the past. The process of action research gave the action team the opportunity to extend their understanding and gain information about what occurs in the classroom and through observations, reporting, reflections and evaluations to decide what could be adapted, supplemented or changed.

It would be helpful if general and SEN teachers could form action research teams for observing, reporting, reflecting and evaluating their current teaching practices so as to contribute to further changes in Greek general and SEN educational curricula in the early years or further stages of education. Then teachers could adopt a more active role in curriculum development with regards to new or supplementary content, methods, strategies, media and resources and put it into practice. According to Elliott (1991) all teachers need to work on developing their practice in terms of adopting new techniques, information, materials and ideas so as to establish new curriculum materials and strategies. With regard to the present research all members of the action team were benefited from

participating and contributing to this action research, in terms of their own educational practices:

- By unfolding and rethinking the guided- exploration orientation approach (Kindler, 1996; Eglinton, 2003). This approach emphasizes the common track of teachers and children in learning and acting. Thus, teachers act as guides and co-learners alongside the children and not just as supervisors. This approach emphasizes the existing knowledge and its application on new ideas and projects. In this research children's preference and skills in using the traditional medium of plasticine was taken into consideration for developing a new task for them including the iStop Motion animation application with the use of iPad.

- By introducing traditional material alongside contemporary resources. The use of the traditional medium of plasticine and a storyline with familiar characters along with the use of the iPad and its applications for digital storytelling provided both the children with autism and their peers with a gradual exposure to new visual arts learning and making process.

- By enhancing visual teaching methods for children with autism with specific strategies such as visual aids, sequence lists and demonstrations according to the specific tasks of the curriculum sessions.

The participant teachers in this research implemented visual art activities and tasks related to the sessions of the visual arts curriculum unit such as i) making stories in which the characters were the children; ii) narrating these stories using drawings and objects as reinforcements in small groups; iii) using plasticine to form scenes or figures of the stories; and v) using cameras to take sequence photos of the scenes and the figures formed of plasticine, after the

implementation of the visual arts curriculum unit was ended. Teachers in all school settings could try out within their teaching practices these new kinds of materials and resources offered by ICT devices in combination with traditional materials familiar to children. At the present time these resources are not always available in school settings in Greek schools. Similarly, the reception unit, where this research took place, was not equipped with iPads or tablets, but only with cameras and computers (by the Greek Educational Organisation of School Equipment). Therefore, the teachers in the present reception class had to make alterations and used the cameras to take photos of children's plasticine figures and scenes and present them afterwards in an order to present their story.

8.4 Contribution to Knowledge

This research has contributed to the existing knowledge about: i) teaching young children with autism through visual arts in a mainstream school; ii) development of visual arts curriculum units; and iii) the action research method.

- According to my knowledge, this research is the first study in Greece to explore the effect of a visual art curriculum unit on social interaction and task performance of young children with autism. It underpinned the belief that art education, unlike other disciplines of the early years curriculum, allows all children to be assessed for their performance, regardless of their abilities (Gregoire and Lupinelli, 2005; Guay 2010). This assumption led to the design of an inclusive visual arts classroom, where the curriculum unit was implemented. The research confirms previous studies and contributes additional findings

showing that art education can enhance young autistic children's inclusion in mainstream schooling.

- The visual arts curriculum unit could be considered unique in terms of its methods and content. Specific instructions and strategies along with the combination of traditional art media and contemporary resources were explored and developed for use in the sessions that formed the curriculum unit. The analysis of the curriculum unit has been approached according to Engeström's (1999) activity theory (Cole and Engeström, 1993; Engeström, 1999). Each element (i.e., story line, plasticine, iPad and digital storytelling) was used and adapted to foster learning development, enhance social interaction and task participation. The whole process could be considered as an original motive force for change and development that results in a new activity system as part of evolution, which in this research is the visual arts curriculum unit. Finally, this curriculum unit could be implemented and adapted by any general or SEN teacher in mainstream inclusive schools. For instance, this curriculum unit can be expanded or adapted to other visual art classes and can be taught to other age groups. Teachers can introduce children to a variety of art mediums and resources, such as paint, brushes, pencils or clay to create or recreate, draw and paint figures or scenes inspired by familiar stories or books. These figures or pictures can then be organized to either create a book and a story or photographed in sequence to form a digital story or artwork. However, modifications could be made to the present visual arts curriculum unit if it will be applied in SEN schools and be more attainable for autistic children with severe fine or gross motor skills and challenging behaviours.

- This research contributed to the existing literature about action research methodology and specifically on participatory action research, in which a lead researcher and teacher directs the actions of the participant teachers. Action research focuses on teachers identifying a practical problem and taking action to find solutions. In this research it was only me at the beginning who identified the problem in the early years visual arts curriculum, as this impacted children with autism. However, during the implementation of action research all teacher participants, including myself as a teacher-researcher, shared common values regarding the teaching of visual arts in the early years and in our aim to include children with autism. Finally, this research offers an example of an action research methodology involving a 'spiral of cycles' that include actions, reflections, evaluations and revisions guided by a researcher and teacher. It has achieved a positive outcome in terms of changing practitioners' practice and I anticipate that it will encourage early years and SEN teachers in Greece to form action research teams. These teams can use the findings of this research study to set specific goals in visual arts education in order to enhance social interaction, task participation and inclusion in young children with autism.

Action research can make important contributions in participating schools, both for individual and teams of teachers working collaboratively. It has the potential to bring change across thinking and acting norms (Messiou, 2019). This research has contributed the development of inclusive thinking and practices, by allowing teachers to collaborate with researchers and adapt educational tools toward effective classroom practices. The collaboration of teachers, when designing lessons and practices, allows them to reflect on their own practices and make relevant changes. This aligns with Peterson et al. (2018) regarding the

importance of dissemination of collaborative action research results conducted in schools, to ensure that knowledge is shared and used in different settings and provide alternative perspectives to curriculum change, research and practice.

8.5 Limitations of the Study

Although the study succeeded overall in fulfilling its initial aims and implemented action research methodology effectively, it had some limitations. One obvious limitation was the small sample size of participant children on the spectrum; thus, this small sample of participants might have affected and posed challenges for the generalization of the findings. The visual arts curriculum unit was only taught to one inclusive reception class in Greece, due to limitation of time in the form of postdoctoral studies; thus, four children on the spectrum participated in the first research cycle of problem identification and five children on the spectrum participated in the second and third research cycles. Also, the fact that Peter, who participated in both research cycles three and four, reduces more the sample of the children participating in the research and may as well have affected the generalization of the findings.

Further limitation of the study was that the whole curriculum unit was taught to the groups of children in both the second and third research cycles, by the researcher in collaboration with the Head teacher and SEN teachers. The implementation of more developmental and evaluative cycles where the Head teacher and SEN teachers test and implement the intervention on their own, might have affected further the positive benefits of the curriculum unit. Also, teaching the curriculum unit in small groups of children, thus having a smaller ratio of children to teacher, and not to the whole class, might have affected the

outcome of the findings. Yet, it might not be possible to determine and generalize the effectiveness of the curriculum unit and materials used; it is not possible to determine whether these results are solely due to the intervention.

Another limitation of the research is the observational design of the analysis and the coding system selected to evaluate children's social interaction and task engagement. Due to the fact that children's behaviours, gestures, actions and movements are subjects that are not static, but constitute a developmental process that changes over participants and time. Although a high reliability agreement was achieved, and video was the most appropriate tool for the analysis, determining task engagement and social interaction, behaviours can be challenging.

8.6 Recommendations for Future Research

This research embraced the up-to-date values and concepts in visual arts education and tested out how they be placed in effective curriculum framework to meet the needs of all children regardless their abilities. Consequently, further research could be implemented that focuses on: i) the value and place of visual arts education in early years curriculum and ii) designing visual art curricula for teaching both children on the ASD spectrum and their 'typically' developing peers in mainstream and inclusive schools.

- Future research into curriculum aims and content and into teachers' roles in visual art education in the early years is suggested. Specifically further research could be conducted about effective educational ways to involve young children

in contemporary and diverse forms of art learning. Recent theories in early years visual arts education demand expansive and holistic art instruction (Eglinton, 2003). Thus researchers, policy makers and teachers could focus on i) how to extend young children's visual art skills and knowledge through high quality art experiences and continuous observation, modelling and instruction and ii) what kind of roles early years teachers should adopt to support and offer this kind of rich art learning environment and art experiences.

- Future research in the form of action research, employing a larger sample of children with ASD and applying more 'spiral cycles' is suggested. In particular, a team of teachers in collaboration with a researcher could test out and evaluate similar kinds of visual arts interventions, and in particular to explore why and how the iPad, can be used within a visual arts teaching process, to improve social interaction, task participation and inclusion in children with ASD. The relationship between visual arts education and ICT constitutes a highly important new area of study, the results of which could add to the existing body of knowledge into visual arts practices in early childhood education for both children on the spectrum and 'typically' developing peers.

8.7 Personal Statement

When I began this research, I had not estimated the tensions that unfolded, regarding the roles of researcher and teacher, and my responsibilities and reflective practices occurring throughout all stages of the research. However, I now feel that it has been a significant achievement for me, personally in that it provided me with extended knowledge, experience and professional

development. Specifically, it has: i) empowered my reflective and evaluative skills; ii) developed my knowledge of approaches and theories in teaching visual arts in the early years; iii) enhanced my skills in developing and implementing a curriculum unit from scratch; and iv) enhanced my skills in finding and modifying teaching approaches, strategies and educational content so as to consider and meet all young children's abilities and finally to achieve inclusive practice.

Furthermore, this research has increased my knowledge and understanding of the value of visual arts within the early years curriculum. There are significantly potential ways that emerge within it and provide teachers with significant content, methods and resources which facilitate them to teach all children, regardless their abilities. I gained confidence in developing lessons with valuable visual art content, using a combination of media and resources to facilitate all young children's engagement and interest in visual arts education. After I have submitted this thesis, I aim to publish articles about it in international educational journals and participate in art education and special needs conferences to present the curriculum unit. I also aim to continue my teaching evolution in early years and autism spectrum disorders through developing and teaching visual art lessons units and interventions with a significant focus on visual art skills and techniques, exposures to contemporary visual art aspects, media and resources in combination with traditional and finally achieve inclusive practice in mainstream schools.

Glossary

Action Research

A cyclical, collaborative and practical research methodology with the view to problem identification, systematic collection of data, reflection, critical analysis, redefinition of the problem and curriculum improvement and development (Elliott, J. 1991, Action Research for Educational Change)

Autism Spectrum Disorders (ASD)

A developmental disorder characterized by difficulties in social interaction and communication and by restricted or repetitive patterns of thought and behaviour (National Autistic Society)

Artwork

The outcome, product or object made by children, using a visual art process e.g., plasticine figures, video animation etc.

Content

The body of knowledge and information teachers include in their lessons to enable children to acquire understanding and skills (National Curriculum for Art and Design in England, Department for Education/National Society for Education in Art and Design).

Curriculum Unit

A series of lessons (National Curriculum for Art and Design in England, Department for Education/ National Society for Education in Art and Design).

Learning Aims

Brief description of the overall goals children benefits from at the end of a programme (National Curriculum for Art and Design in England, Department for Education).

Learning Objectives

The educational goals children are expected to fulfil at the end of a lesson (National Curriculum for Art and Design in England, Department for Education).

Media

Materials and tools used by children to create an artwork (National Curriculum for Art and Design in England, Department for Education)

Resource

The supplies used by teachers to support content teaching (National Curriculum for Art and Design in England, Department for Education).

Instructional Strategies

Different instructional modes used by teachers e.g., Whole group and individual demonstrations, teaching in small groups etc.

Special Educational Needs (SEN)

Learning difficulties or disabilities which call for special educational provision to be made (SEN Code of Practice, 2015).

Appendices

Appendix 1

Systematic Literature Review Protocol

1. Purpose/ Objective

To undertake a systematic literature review and identify published data on studies related to:

- Autism Spectrum Disorders.
- Visual arts education in early childhood learning.
- Inclusive practice and provision for children with autism in mainstream classrooms.
 - The use of ICT, technology and iPad in autism.
- Implementation of Action Research for Curriculum development.
 - Implementation of visual arts interventions (using media and resources such as iPad, Plasticine, social stories) in young autistic children who participate in mainstream, inclusive classrooms.

2. Research Questions

- What changes need to be implemented in early years art education to make it more inclusive of young children with autism?
- Could a visual arts curriculum unit that involves a story, the medium of plasticine and the stop-motion animation, with an iPad be effective for young children with autism, in mainstream, inclusive classroom?
- Is collaborative action research an effective way to implement a visual arts curriculum development in early years education?

3. Methodology

3.1 SPICE Criteria

The setting, perspective, intervention, comparison and evaluation (SPICE) criteria for the systematic searches are summarized as follows:

| SPICE Element | Summary of Criteria |
|----------------------|---|
| Setting | <ul style="list-style-type: none">- Early Childhood Education- Mainstream and inclusive school settings |
| Perspective | <ul style="list-style-type: none">- Young children with autism- Special education and general teachers in mainstream and inclusive school settings |
| Intervention | <ul style="list-style-type: none">- Behavioural approaches aimed at identifying and modifying ASD symptoms (such as social interaction/ task participation difficulties)- Visual arts Education/ Visual arts-based intervention including iPad- Action research for curriculum change and development |
| Comparison | Not comparative research |
| Evaluation | Qualitative research, observational methods, video recording |

3.1.1 Language of Publication

The search was restricted by language of publication and only studies published in English and Greek were included in the data extraction phase.

3.1.2 Date of Publication

The literature was searched from 2014 onwards in order to collect the most recent data.

3.1.3 Keywords

Autism Spectrum Disorders, Special Educational Needs and/or Disabilities, Inclusive Practice

Action Research, Curriculum Development, Visual Arts Education

Young Children with Autism Spectrum Disorders, Preschool, Interventions, iPad, Plasticine, Video Animation

3.1.4 Synonyms

Autism Spectrum, Autism Spectrum Condition, Asperger, Autistic Children, Children on the Autistic Spectrum, Children with Special Educational Needs

Visual Arts Curriculum, Stop-motion Animation, Tablet, ICT (Information and Communication Technology), Digital Resources

3.2 Search Strategy

Searches for this systematic review included electronic databases and manual searches.

3.3 Sources/ Digital Libraries

3.3.1 Searches were performed in the following Library databases:

- EBSCO
- Australian Education Index
- British Education Index
- Education Literature Datasets
- Index to current literature relevant to US education (ERIC)
- International Education Research Database

- JSTOR

3.3.2 Searches were performed manually in the following Journals and Association websites:

- Autism: Sage Journals
- Journal of Autism and Developmental Disorders
- Art Education (The Official Journal of the National Art Education Association)
- National Autistic Society
- National Society for Education in Art and Design (NSAED)
- National Art Education Association

3.4 Study Selection

Studies were selected in two phases: title/abstract review and full-article review. A study selection form was developed and used to document each phase of the study selection process. Reasons for exclusion were recorded in both phases.

3.4.1. Inclusion and Exclusion Criteria

| Inclusion Criteria | Exclusion Criteria |
|---|--|
| <ul style="list-style-type: none">-Language English.-Publication date 2014-2020.- Availability full text.- Studies carried out and included children at a preschool age (between 3 and 6 years) with a diagnosis of ASD.- Studies that included interventions related to visual arts education in early childhood and primary education, including young children | <ul style="list-style-type: none">- Language not in English.- Publication before 2014.- Studies not related to Autism Spectrum Disorders, visual arts education in early childhood learning and Action Research for curriculum development in early childhood and primary education.- Studies that were not primary research on young children with ASD |

| | |
|---|--|
| with autism and special educational needs and disabilities. | but only on children of a secondary education. |
|---|--|

3.5 Method of Studies Review: Narrative Synthesis

Narrative synthesis was implemented, following a framework which consists of two elements:

- Developing a preliminary synthesis of findings of included studies.
- Exploring relationships within and between included studies.

Appendix 2

Systematic Review of key outcomes in Autism Spectrum Disorders, Early Childhood Education and Visual Arts

Report

1. Objective

To undertake a systematic literature review and identify published data on studies related to:

- Autism Spectrum Disorders.
- Visual arts education in early childhood learning.
- Inclusive practice and provision for children with autism in mainstream classrooms.
 - The use of ICT, technology and iPad in autism.
- Implementation of Action Research for Curriculum development.
 - Implementation of visual arts interventions (using media and resources such as iPad, Plasticine, social stories) in young autistic children who participate in mainstream, inclusive classrooms.

2. Methods

- A systematic search of published articles in Autism Spectrum Disorders, Early Childhood Education and Visual Arts was carried out on the EBSCO, Australian Education Index, British Education Index, Education Literature Datasets, Index to current literature relevant to US education (ERIC), International Education Research Database and JSTOR databases.
- Search strategies were developed to focus specifically on studies reporting outcomes for young children with autism in early childhood education.
- Articles were screened and selected by the researcher in two phases: title/abstract review and full-article review.

3. Results

The systematic search identified 1,022 published articles. After removal of duplicates, 693 records were assessed. The selection of articles was further refined and 536 articles were removed during title/abstract review process and 157 studies were included for full article review. Finally, 49 articles were included in the final data set and presented in the bibliography section. The search process is summarized in the PRISMA diagram (Figure 1).

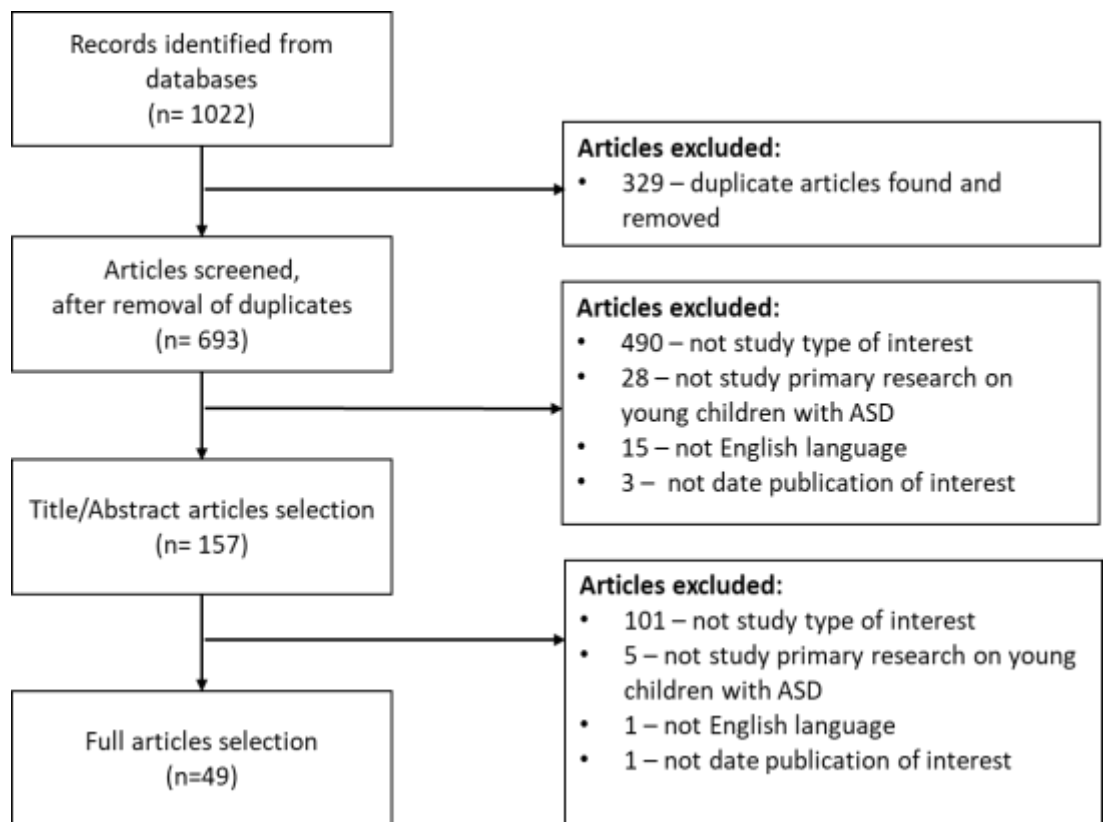


Figure A2: PRISMA Diagram of Search Process Summary

Appendix 3

Ethical Approval

The research for this project was submitted for ethics consideration under the reference 'Integrating young children with autism into a mainstream reception school through an art-based programme. An action research approach', at the Department of Education and was approved under the procedures of the University of Roehampton's Ethics Committee in February 2011.

ETHICS

APPLICATION FORM (February 2011)

PLEASE CHECK THE RELEVANT BOX

(NB. double click on the check box and select 'checked')

MEMBER OF STAFF



PsychD)

RESEARCH STUDENT

(MPhil, PhD, EdD,

EXTERNAL INVESTIGATOR

STUDENT (Other)**

If you are a transfer student or conducting collaborative research you may not need to complete this form, please see Section 2.2. of the Guidelines.

***If you are on a taught course, you do not need to complete this form unless your project is worth more than 50% of your total credits or you have been asked to do so by your supervisor*

SECTION 1: PERSONAL DETAILS

Please complete the header with your name and Department

Name (lead):


Andriana Papachrysanthaki

Other investigators:

Correspondence address:

**Parodos Makriyianni 22, 26332,
Patras, Greece**

Telephone no:

**00447929291788,
00306946325** 

| | |
|--|--|
| Email: <i>(all correspondence will be sent by email unless otherwise requested)</i> | apapachrisanthaki@yahoo.gr |
| FOR STUDENTS ONLY: | |
| Programme of study & Department: | MPhil/ PhD in Education |
| Mode of study (full-time/part-time) | Full- time |
| Director of Studies: (If you are on a taught course, please give the name of your supervisor) | Professor Rachel Mason |
| FOR EXTERNAL INVESTIGATORS ONLY (please see Section 4.5 of the Ethical Guidelines): | |
| Name of Academic Assessor: | |

| SECTION 2: PROJECT DETAILS | |
|--|---|
| Title of project: | Integrating young children with autism into a mainstream reception school through an art-based programme. An action research approach. |
| Proposed start date: <i>(Please note it can take several months to get approval. The Committee will not approve a retrospective start date)</i> | October 2010 Start of research section that requires ethical clearance: October 2011 |
| Duration: | 18 months |
| Purpose of the proposed investigation: This section should include the material which outlines the rationale for the project, i.e., why this study needs to be done. This should be done in a way that is both accessible and scholarly, i.e., have proper cited sources. | |
| This research aims to develop, test out and evaluate the effectiveness of an art-based programme for children with autism, ranging from four to seven years in an inclusive reception unit in Greece. The investigation will inquire into whether or not certain | |

kinds of modified art activities improve their communication and social interactions with their nondisabled peers and teachers. It will begin with analysis of the current state of knowledge about impairment in autism and curriculum in art and special education so as to provide the theoretical basis for an educational intervention.

The context for the proposed research is a reception class of a mainstream school in the county of Achaia, in Greece. The class has both autistic and non-disadvantaged children and the researcher plans to collaborate with teachers on designing, testing out and evaluating an experimental art programme. The questions formulated for the purpose of this inquiry are:

- What kind of art-based curriculum experiences do children with autism already have in this reception unit?
- How do their teachers understand aims, methods and outcomes for art lessons?
- What kind of art-based intervention might facilitate these children's communication and social interaction with their peers and teachers?
- How should it be designed implemented and evaluated?
- Is collaborative action research an effective way of implementing this kind of curriculum change?

The lack of effective inclusion of children with autism in mainstream reception units in Greece is accompanied by a deficiency in effective curriculum guidelines and collaboration between generalist and special education teachers. Meanwhile, children with autism spectrum disorders struggle to exchange information with their peers, due to their lack of communication skills and incomplete integration into education. Difficulties interpreting their verbal communication can lead to inappropriate behaviour, (Wing, 1996; Frith, 2003). They often have a strong visual apprehension and theory in the literature suggests that their joint participation in an art-based programme with an emphasis on group activities

specifically designed to enable communication and social interaction, might lead them to develop social engagement. This research sets out to test the hypothesis that children with autistic spectrum disorders can improve in their communicative skills and reciprocal social interactions with their peers and teachers, if they are integrated in an effective mainstream setting and included in group art activities.

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Outline of project:

This section should include the details of methodology i.e., what will be done and how.

The research will be qualitative in nature and take the form of action research defined as a set of actions conducted in a cyclical procedure of research conduct. Specifically, the researcher and the teachers will collaborate so as to define the problem, plan the solution, act and observe and reflect upon further development. The team will consist of myself as the researcher, a head teacher and two early years teachers qualified in special education needs in the particular school where the research will take place.

I will adopt the three roles of researcher, facilitator and leader (Blatherwick 1998). I will provide teachers with the information and knowledge I gain through background research and study of relevant literature to my research topic (e.g., recent theories about art education, communication and social interaction impairments in autism and educational methods of enabling communication for autistic children). I will work in collaboration with them to refine the practical problems they encounter in their classrooms and consider possible solutions. We will work together on developing and finalizing a working hypothesis in the form of an art-based programme, then implement and evaluate it.

There will be 26 child participants in the reception class aged 4-7 years. The main focus will be on 12 of these children with autistic spectrum disorders who have been diagnosed as such by the Centre for Diagnosis, Assessment and Support in Greece. The other 14 are nondisabled children aged 4-6.

The research will be organized into 5 phases in accordance with the principles of action research. Specifically, the research phases are:

1) Researching autism and theory and practice of art education, (Currently- September 2011)

This phase involves a thorough analysis of theories about autism, communication and social interaction impairments, integrating children with autism in mainstream curricula and effective programming of art education in particular

2) Defining and analysing the practical problem, (October 2011- December 2011)

The head teacher and the one special needs teacher will teach the reception unit in their normal way and I will adopt the role of non-participant observer (Bryman, 2008; Cohen et al., 2007; Robson, 2002).

The data collection instruments will be researcher observation and video recording conducted by the second special needs teacher. Official permission for this video recording will be sought from the parents and guardians of the children and the teachers involved in the action research (Roehampton 2010 and BERA, 2004). I will use a journal to record the observations and afterwards for the purposes of reflection and interpretation. The above instruments will focus on the behaviours of the children with autism when they make art and how they interact and communicate with their peers and teachers around art making activities A formal meeting between the researcher and the teachers will take place to discuss the findings at the end of this phase.

3) Developing an art-based programme, (January 2012- February 2012)

In collaboration with the other action team members the researcher will design an art-based programme specifically for the children with autism. I will adopt role of the facilitator, guide group discussions and write the art-based programme. The action team as a whole will share ideas and in decision making. The extracts from the data from the video recording and observations in the previous phase will be used to promote discussion and reflection during group discussions of the team.

4) Piloting and modifying the programme, (March 2012- May 2012)

In this phase the programme will be tested out and implemented by the researcher in 12 sessions during school time, over a period of five weeks (March 2012 to May 2012). Specifically, I will teach the reception unit in collaboration with one teacher qualified in special education. The head teacher and the second qualified teacher will observe, video record and help to evaluate the action. A checklist will be designed for use during classroom observation and will be also be used as an evaluation instrument. The observation data and the video recordings will be analysed for the frequency of autistic children's social interactions, the quality of their verbal and non-verbal communication and their effective participation in the group art activities.

At the end of phase 4 joint meetings of the action team will be conducted so the teachers and researcher can reflect upon and evaluate the lesson plans, learning activities and outcomes. This joint evaluation will determine the modifications to the programme, addition or elimination of activities and revisions.

5) Implementing and evaluating the programme, (September 2012- November 2012)

The modified art-based programme will be implemented and evaluated a second and final time. In this phase the revised programme will be taught by the head teacher and one other teacher qualified in special education teacher during 12 sessions. I will adopt the role of a non-participant observer (Bryman, 2008; Cohen et al., 2007; Robson, 2002) and record data in a journal. The journal will include my observations of the impact of the programme on autistic children's social awareness, attachment to their peers, joint participation, quality and frequency of communication and social reciprocity and attendance of social rules together with interpretations and reflection. The other teacher will video record the action.

A group discussion will be conducted with the 14 nondisabled children of the reception unit at the end of this phase. The aim will be to obtain their views on the need for friendship with autistic children and participation in mutually enjoyable art activities.

Joint meetings of the action team will be conducted at the end of phase 5 and will be tape recorded. The focus will be on (i) reflecting on the strengths and weaknesses of the revised art-based programme, (ii) ascertaining the teachers' beliefs about its impact on autistic children's communication and social interaction with teachers and peers, iii) identifying what kind of art activities motivate autistic children the most and iv) on their overall evaluation of the process and benefits of collaborative action research.

Outline of project (continued):

Please continue on extra sheets if necessary.

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Ethical issues raised by the project:

Ethical guidelines (Roehampton 2010 and BERA, 2004), will be followed at the beginning of the enquiry and will continue within the conduct of the research, concerning the following issues:

-The participants involved in the research project will be fully informed or as fully as possible by the researcher about the scope of the research. In addition, the parents/ guardians of the children will be informed about the project.

-Facilitate the freedom and self –determination of the participants and more considerably accomplish their voluntary contribution and agreement to the research.

-Informed consent will be sought by the head teacher, the special needs teachers and the parents/guardians of the children.

-The participants will have the right to withdraw from the conduct of the research.

-There will be no use of names and other personal means of identification of children and teachers and the anonymity will be maintained by separating identifying information from the research data, once the data will be prepared for analysis,

Bibliography

British Educational Research Association, (BERA), (2004), *Revised Ethical Guidelines for Educational Research*, London: BERA.

Roehampton University (2010), *Ethical Guidelines*, London: Roehampton University

Roehampton University (2009), *Data Protection Policy*, London: Roehampton University.

SECTION 3: USE OF PARTICIPANTS

- You should download the Participant Consent Form Template and amend it if necessary
- You should also attach any other information to be given to participants
- You should consider carefully what information you provide to participants, e.g., scope of study, number of participants, duration of study, risks/benefits of the project. It is recommended that the participant has two copies of the consent form so they can retain one for information.
- If images or anything else which might allow the identification of participants is to be publicly accessible (e.g., on the web), further written consent must be secured

Give details of the method of recruitment, and potential benefits to participants if any (include any financial benefits where appropriate).

Please remember that ethics approval will have to be sought from any organisations where recruitment is carried out or posters placed (e.g., if you recruit in GP's surgeries you will require NHS approval):

-The participants are a head teacher, two teachers qualified in special education needs and early years and 26 children in the reception class aged 4-7 years. The main focus will be on 12 of these children with autistic spectrum disorders who have been diagnosed as such by the Centre for Diagnosis, Assessment and Support in Greece. The other 14 are nondisabled children aged 4-6.

-There will be no financial benefits towards the participants.

Will you be using participants who are aged under 18?

YES NO

If you have answered Yes, please refer to section 4.11 of the Ethics Guidelines and highlight the particular issues raised by working with these participants and how these issues have been addressed.

- Particular issues will be taken into consideration concerning children that will participate in the research.

-Official permission and informed consent will be sought by the parents/guardians of the children.

- Children will be protected and treated with respect. In particular, the protection of identity and the assurance of the anonymity of the children will maintain throughout the research project. Personal and sensitive data derived from the video recorded sessions, will be kept secured only for the purposes of the research inquiry and for as long as it is necessary and it will be guaranteed that there will be no disclosure of data and personal identification.

Bibliography

Roehampton University (2010) *Ethical Guidelines*, London: Roehampton University.

Details of CRB check?

-The research will be conducted in one inclusive mainstream reception class of a Public primary school in Greece. Therefore, Police Clearance Check has been obtained from the Greek Police Authorities.

SECTION 4: HEALTH AND SAFETY

- You must download and complete the Risk Assessment Form and attach this to your application.**
- You should be able to demonstrate that appropriate mechanisms are in place for the research to be carried out safely
- If necessary, the Head of Health & Safety should be consulted before the application is submitted

Will any of your project take place outside the UK?

YES NO

If you have answered yes please list the countries below and refer to Section 4.2 of the Ethics Guidelines, complete the overseas risk assessment and consult with the Head of Health and Safety:

-The research will be conducted at a public primary school in county of Achaia in Greece. It will take place in an inclusive mainstream reception class.

-Greece is regarded as a stable country, where a research conduct can take place safely.

Is this a clinical trial or a project which may involve abnormal risk to participants?

YES NO

Will 'human tissue' samples need to be stored?

YES NO

If you have answered Yes, please contact the Ethics Administrator who will be able to direct you to the appropriate member of staff dealing with this. Please also refer to Sections 3.5 and 4.2 of the Ethics Guidelines

SECTION 5: PUBLICATION OF RESULTS

How will you disseminate your findings? (e.g., publication)

-The research constitutes the inquiry of a PhD project. Hence publication will be available through Roehampton University.

- I anticipate that a number of articles will be developed from the project and presented in conferences. Hence, permission will be sought by the participants, who will be provided with a summary of the findings of the research.

SECTION 6: STORAGE OF DATA

Section 2.7 of *Roehampton University Code of Good Research Practice* states the following 'research data must normally be retained intact for a period of at least ten years from the date of any publication which is based upon it. Researchers should be aware that specific professional bodies and research councils may require a longer period of data retention.'

Describe how and where the following data will be stored and how they will be kept secure:

Raw and processed data

-The data will be processed fairly and lawfully in accordance with the university's data protection principles.

-There will be no use of names and other personal means of identification of children and teachers and the anonymity will be maintained by separating identifying information from the research data.

-The data collected within the research conduct will be coded, accumulated and secured in two different computers within a devised storage system (computer software NVivo system) or electronically in secure folders which will be accessible with the use of a password known only to the researcher.

Bibliography

Roehampton University (2009) *Data Protection Policy*, London: Roehampton University.

Documents containing personal details of any participants

-Personal and sensitive data will be attained and kept secured only for the purposes of the research inquiry and for as long as it is necessary and it will be guaranteed that there will be no disclosure of data and personal identification.

SECTION 7: EXTERNAL GUIDELINES, APPROVAL & FUNDING

Are there any relevant subject-specific ethics guidelines (e.g., from a professional society)? If so, how will these inform your research process?

The ethical guidelines that have been considered for the conduct of the research are:

British Educational Research Association, (BERA), (2004) *Revised Ethical Guidelines for Educational Research*, London: BERA.

Roehampton University (2010) *Ethical Guidelines*, London: Roehampton University.

Has/will the project be submitted for approval to the ethics committee of any other organisation, e.g., NHS ethics approval? (Please see Section 4.3, Ethics Guidelines)

NO

What is the outcome of this?

N/A

Is your project externally funded?

YES NO

If you have answered yes, you must complete a P1 form and submit this to the Bids & Grants Team, RBDO before you complete your ethics application.

Please state the name of the funding organisation/company below and provide any other relevant information:

N/A

Has your P1 form been approved?

YES NO

SECTION 8: CHECKLIST

Please read through the checklist and check the box to confirm:

NB. this checklist is part of the Ethics Application and must be completed

Project Details

- Have you completed your personal details? (Section 1) Yes
- Have you outlined the project and ethical issues? (Section 2) Yes
- Have you described your project in laymen's terms and avoided using too much technical jargon? Yes
- Have you focussed on the ethical issues and practical steps of carrying out the project rather than methodological arguments which are not relevant to this application? Yes

Working with Participants

- Have you completed details of how you intend to recruit participants and whether they will receive any reimbursement? (Section 3) Yes
- If you are working with under 18s, have you addressed the particular ethical issues involved in working with these participants? (Section 3) Yes
NA
- Have you amended the Participant Consent Form (Template) for your project?
- Have you attached to your form any other information that may be needed for participants, e.g., Debriefing Letter, Information Sheet? Yes
- Have you attached to your form any other participant-facing materials, e.g., recruitment posters, questionnaire, interview questions? Yes
- If your project involves clinical trial/s, abnormal level of risk or working with animals have you read University Guidelines carefully? Yes
NA

Health and Safety

If your project takes place outside the UK, have you noted on the form where the project will take place and read section 4.2 of the guidelines? Yes
NA

Have you completed the University risk assessment describing the risks associated with your project and how you will implement control measures to address these? Yes

If your project involves interviews in a participant's home or lone-working information, have you considered the risks and control measures in the risk assessment? (E.g., advising a colleague/supervisor of the timings of visits, ringing before/after interview and developing a contingency plan if contact is not made) Yes
NA

If your project involves clinical trial/s, abnormal level of risk, working overseas or working with animals, have you consulted with the Head of Health & Safety in drawing up your risk assessment? Yes
NA

If your project involves clinical trial/s, abnormal level of risk, working overseas or working with animals have you marked this clearly on the form (Section 4) and read sections 3.5 and 4.2 of the guidelines? Yes
NA

Publication of Results

Have you described on the form how you will publish your findings? (Section 5) Yes

Have you described how you will ensure the anonymity of your participants or asked your participants for explicit consent in your consent form to identify them in your research? Yes

Storage of Data

Are you aware that the University's Code of Good Research Practice requires you to retain data intact for a period of at least ten years from the date of any publication? (*Specific professional*) Yes

bodies and research councils may require a longer period of data retention.)

Have you described how and where your data will be stored at the University and how this will be kept secure? (Section 6) Yes

External Guidelines & Funding

Have you noted any relevant subject-specific ethics guidelines (e.g., from a professional society) and considered how these will inform your research? (Section 7) Yes

Have you considered whether you have to apply for ethical approval through another organisation (e.g., NHS)? (Section 7) Yes
NA

Have you provided full details of any external funding and the approval stage of your P1 form? (Section 7) Yes
NA

Have you included a contract or any other formal agreement relating to the project? Yes
NA

Applicant's Confirmation

Have you added an electronic signature or typed your name and date in the applicant's signature box? Yes

If you are a student has your supervisor checked your application form before submission? Yes
NA

Will you email the Ethics Administrator and make sure you attach your Ethics Application Form and all documents, e.g., Participant Consent Form, Risk Assessment Form and any additional information for participants or for other purposes? Yes

Presentation

Have you completed the form using size 12 black font, using one font (e.g., Arial) throughout the form and removed any large gaps from the application form? Yes

Have you proof-read your application form and attached documents? Yes

Ethics Approval Process

Do you understand the following?

- the ethics approval process can take several weeks Yes
- that you must not begin your project or enter into any agreement or contract until you have received email confirmation from the Ethics Administrator that you can begin the project Yes
- that the Ethics Application Form will be approved by your Department and the Ethics Committee may be asked to advise on problematic cases Yes
- that you may be asked by the Ethics Administrator to make revisions to your form and you will be given two months to make these revisions from the date of any email sent to you Yes

SECTION 9: APPLICANT'S CONFIRMATION

I confirm that the information supplied on this form is correct and confirm that the above checklist has been fully completed.

Applicant's signature: ANDRIANA PAPACHRYSANTHAKI

Date: 9/05/2011

FOR STUDENTS ONLY: DIRECTOR OF STUDIES SIGNATURE

(Where there is not a Director of Studies this should be completed by the academic supervisor)

The Director of Studies is required to:

- *scrutinise the Ethics Application and all participant-facing documentation*
- *suggest and check any changes which need making before the form is submitted*

Please tick the box to confirm that you have approved the application and participant-facing documentation Yes

Signature: Professor Rachel Mason

Print name: QuickTime™ and a decompressor are needed to see this picture.

Date: 04/04/11

Appendix 4

Confirmation Letter

I Papachrysanthaki Adriana an MPhil/ PhD research student of Roehampton University confirm that the consent forms that have been conducted for the purposes of my research will be signed in the language of the participants and parents/guardians of the children.

Signature: Papachrysanthaki Andriana

Date: 20/06/2011

Appendix 5



ETHICS BOARD

PARTICIPANT CONSENT FORM FOR THE PARENTS/GUARDIANS OF THE CHILDREN

Title of Research Project:

Enhancing Young Children's with Autism Social Interaction and Task Performance through Visual Arts.

Brief Description of Research Project:

This research aims to develop, test out and evaluate the effectiveness of an art-based programme for children with autism, ranging from four to seven years in an inclusive reception unit in Greece. The investigation will inquire into whether or not certain kinds of modified art activities improve their communication and social interactions with their nondisabled peers and teachers.

The action research team will consist of myself as the researcher, a head teacher and two teachers qualified in special education needs and early years. The teachers will collaborate with me in refining the problem and decision making about the design, implementation and evaluation of the experimental art-based programme. There will be 26 child participants in the reception class aged 4-7 years. The main focus will be on 12 of these children with autistic spectrum disorders who have been diagnosed as such by the Centre for Diagnosis, Assessment and Support in Greece. The children will be observed during their current performance and learning processes during art activities and their participation in the art-based programme and will be interviewed within a group discussion, throughout the period of October 2011 to November 2012. The observations and interviews during the school sessions will be video recorded; the data from the video recorded sessions will be used only for the purposes of the research.

Investigator Contact Details:

Name: Andriana Papachrysanthaki

Department: Education

University address: Roehampton University,

Roehampton Lane,

Post code: SW15 5PJ

Email: apapachrisanthaki@yahoo.gr

Telephone: 00447929291788

Consent Statement:

I agree my child to take part in this research, and am aware that he/she is free to withdraw at any point. I understand that the information my child provides will be treated in confidence by the investigator and that his/her identity will be protected in the publication of any findings.

Name

Signature

Date

Please note: if you have a concern about any aspect of your participation or any other queries, please raise this with the investigator. However, if you would like to contact an independent party, please contact the Head of Department (or if the researcher is a student, you can also contact the Director of Studies.).

Director of Studies Contact Details:

Professor Rachel Mason

Roehampton University, Roehampton
Roehampton

Lane, SW15 5PJ

Telephone:004420 8392 3009

R.Mason@roehampton.ac.uk

Head of Department Contact

Marilyn Holness

Roehampton University,

Lane, SW15 5PJ

Telephone: 0044 20 8392 3374

Appendix 6



ΣΥΜΒΟΥΛΙΟ ΗΘΙΚΩΝ ΘΕΜΑΤΩΝ

ΕΝΓΓΡΑΦΟ ΣΥΓΚΑΤΑΘΕΣΗΣ ΤΩΝ ΚΗΛΕΜΟΝΩΝ ΤΩΝ ΣΥΜΜΕΤΕΧΟΝΤΩΝ ΣΤΗΝ ΕΡΕΥΝΑ

Τίτλος του ερευνητικού έργου:

Η ένταξη παιδιών με αυτισμό προσχολικής ηλικίας στο νηπιαγωγείο μέσω ενός εκπαιδευτικού προγράμματος τέχνης. Μεθοδολογική Προσέγγιση: Έρευνα Δράσης.

Συνοπτική Περιγραφή του Ερευνητικού Έργου:

Στόχος της παρούσας έρευνας είναι η ανάπτυξη, δοκιμή και αξιολόγηση ενός εκπαιδευτικού προγράμματος τέχνης για παιδιά με αυτισμό προσχολικής ηλικίας (4- 7 χρόνων), που είναι ενταγμένα σε νηπιαγωγείο/ τμήμα ένταξης στην Ελλάδα. Η έρευνα θα εξετάσει τη βελτίωση της επικοινωνίας και κοινωνικοποίησης των παιδιών με αυτισμό με τους συμμαθητές και εκπαιδευτικούς τους κατά τη διάρκεια συμμετοχής τους σε τροποποιημένες δραστηριότητες τέχνης.

Η ομάδα του ερευνητικού έργου θα αποτελείται από την ερευνήτρια, την προϊσταμένη του νηπιαγωγείου και τις δύο νηπιαγωγούς ειδικής αγωγής. Οι νηπιαγωγοί θα συνεργαστούν με την ερευνήτρια για την από κοινού διύλιση του προβλήματος, ανάπτυξη, εκτέλεση και αξιολόγηση του εκπαιδευτικού προγράμματος τέχνης. Οι συμμετέχοντες στο ερευνητικό πρόγραμμα θα είναι 26 παιδιά ηλικίας 4-7 χρόνων. Ο κύριος στόχος της έρευνας θα είναι η παρατήρηση των 12 παιδιών με αυτισμό από τα 26 τα οποία έχουν διαγνωσθεί από το Κέντρο Διάγνωσης και Αξιολόγησης (ΚΕΔΔΥ) στην Ελλάδα. Τα παιδιά θα παρατηρηθούν κατά τη διάρκεια της τρέχουσας επίδοσής τους και συμμετοχής τους στις καθημερινές δραστηριότητες τέχνης και μετέπειτα κατά τη διάρκεια συμμετοχής τους στο εκπαιδευτικό πρόγραμμα τέχνης. Επίσης τα παιδιά θα κληθούν σε συνέντευξη που θα έχει τη μορφή ομαδικής συζήτησης. Η

παρατήρηση θα διαρκέσει από τον Οκτώβριο 2011 έως το Νοέμβριο 2012. Οι παρατηρήσεις και οι συνεντεύξεις θα βιντεοσκοπηθούν. Τα δεδομένα των βιντεοσκοπήσεων θα χρησιμοποιηθούν μόνο για το σκοπό της έρευνας και θα τηρηθεί η ανωνυμία των συμμετεχόντων.

Στοιχεία Επικοινωνίας της Ερευνήτριας:

Όνοματεπώνυμο: Ανδριάννα Παπαχρυσανθάκη

Τμήμα: Παιδαγωγικό

Διεύθυνση Πανεπιστημίου: Roehampton University,
Roehampton Lane, SW15 5PJ

Email: apapachrisanthaki@yahoo.gr

Τηλέφωνο: 00447929291788

Δήλωση Συναίνεσης:

Δίνω την συγκατάθεσή μου το παιδί μου να λάβει μέρος στην παρούσα έρευνα και είμαι ενήμερος/η ότι έχει τη δυνατότητα να αποσυρθεί όποτε θελήσει από αυτήν. Κατανοώ ότι τα δεδομένα της έρευνας θα φυλαχθούν σε ασφαλές μέρος και η ταυτότητά του θα προστατευθεί κατά τη δημοσίευση των αποτελεσμάτων.

Όνοματεπώνυμο:

Υπογραφή:

Ημερομηνία:

Μη διστάσετε να επικοινωνήσετε με την επιβλέπουσα καθηγήτρια της ερευνήτριας ή την επικεφαλής του Παιδαγωγικού τμήματος για περεταίρω θέματα που αφορούν στη συμμετοχή του παιδιού σας στην έρευνα.

Στοιχεία Επικοινωνίας:

Καθηγήτρια Rachel Mason
Holness

Επικεφαλής του Τμήματος: Marilyn

Roehampton University,
Roehampton Lane, SW15 5PJ

Roehampton University
Roehampton Lane, SW15 5PJ

Telephone: 004420 8392 3009

Telephone: 0044 20 8392 3374

R.Mason@roehampton.ac.uk

Appendix 7



ETHICS BOARD

TEACHERS' PARTICIPANT CONSENT FORM

Title of Research Project:

Enhancing Young Children's with Autism Social Interaction and Task Performance through Visual Arts.

Brief Description of Research Project:

This research aims to develop, test out and evaluate the effectiveness of an art-based programme for children with autism, ranging from four to seven years in an inclusive reception unit in Greece. The investigation will inquire into whether or not certain kinds of modified art activities improve their communication and social interactions with their nondisabled peers and teachers.

The action research team will consist of myself as the researcher, a head teacher and two teachers qualified in special education needs and early years. The teachers will collaborate with me in refining the problem and decision making about the design, implementation and evaluation of the experimental art-based programme. There will be 26 child participants in the reception class aged 4-7 years. The main focus will be on 12 of these children with autistic spectrum disorders who have been diagnosed as such by the Centre for Diagnosis, Assessment and Support in Greece. The children will be observed during their current performance and learning processes during art activities and their participation in the art-based programme and will be interviewed within a group discussion, throughout the period of October 2011 to November 2012. The observations and interviews during the school sessions will be video recorded; the data from the video recorded sessions will be used only for the purposes of the research.

Investigator Contact Details:

Name: Andriana Papachrysanthaki

Department: Education

University address: Roehampton University,

Roehampton Lane,

Post code: SW15 5PJ

Email: apapachrisanthaki@yahoo.gr

Telephone: 00447929291788

Consent Statement:

I agree to take part in this research, and am aware that I am free to withdraw at any point. I understand that the information I provide will be treated in confidence by the investigator and that my identity will be protected in the publication of any findings.

Name

Signature

Date

Please note: if you have a concern about any aspect of your participation or any other queries, please raise this with the investigator. However, if you would like to contact an independent party, please contact the Head of Department (or if the researcher is a student, you can also contact the Director of Studies.)

Director of Studies Contact Details:

Professor Rachel Mason

Roehampton University, Roehampton
Roehampton

Lane, SW15 5PJ

Telephone:004420 8392 3009

R.Mason@roehampton.ac.uk

Head of Department Contact

Marilyn Holness

Roehampton University,

Lane, SW15 5PJ

Telephone: 0044 20 8392 3374

Appendix 8



ΣΥΜΒΟΥΛΙΟ ΗΘΙΚΩΝ ΘΕΜΑΤΩΝ

ΕΝΓΓΡΑΦΟ ΣΥΓΚΑΤΑΘΕΣΗΣ ΤΩΝ ΕΚΠΑΙΔΕΥΤΙΚΩΝ ΣΥΜΜΕΤΕΧΟΝΤΩΝ ΣΤΗΝ ΕΡΕΥΝΑ

Τίτλος του ερευνητικού έργου:

Η ένταξη παιδιών με αυτισμό προσχολικής ηλικίας στο νηπιαγωγείο μέσω ενός εκπαιδευτικού προγράμματος τέχνης. Μεθοδολογική Προσέγγιση: Έρευνα Δράσης.

Συνοπτική Περιγραφή του Ερευνητικού Έργου:

Στόχος της παρούσας έρευνας είναι η ανάπτυξη, δοκιμή και αξιολόγηση ενός εκπαιδευτικού προγράμματος τέχνης για παιδιά με αυτισμό προσχολικής ηλικίας (4- 7 χρόνων), που είναι ενταγμένα σε νηπιαγωγείο/ τμήμα ένταξης στην Ελλάδα. Η έρευνα θα εξετάσει τη βελτίωση της επικοινωνίας και κοινωνικοποίησης των παιδιών με αυτισμό με τους συμμαθητές και εκπαιδευτικούς τους κατά τη διάρκεια συμμετοχής τους σε τροποποιημένες δραστηριότητες τέχνης.

Η ομάδα του ερευνητικού έργου θα αποτελείται από την ερευνήτρια, την προϊσταμένη του νηπιαγωγείου και τις δύο νηπιαγωγούς ειδικής αγωγής. Οι νηπιαγωγοί θα συνεργαστούν με την ερευνήτρια για την από κοινού διύλιση του προβλήματος, ανάπτυξη, εκτέλεση και αξιολόγηση του εκπαιδευτικού προγράμματος τέχνης. Οι συμμετέχοντες στο ερευνητικό πρόγραμμα θα είναι 26 παιδιά ηλικίας 4-7 χρόνων. Ο κύριος στόχος της έρευνας θα είναι η παρατήρηση των 12 παιδιών με αυτισμό από τα 26 τα οποία έχουν διαγνωσθεί από το Κέντρο Διάγνωσης και Αξιολόγησης (ΚΕΔΔΥ) στην Ελλάδα. Τα παιδιά θα παρατηρηθούν κατά τη διάρκεια της τρέχουσας επίδοσής τους και συμμετοχής τους στις καθημερινές δραστηριότητες τέχνης και μετέπειτα κατά τη διάρκεια συμμετοχής τους στο εκπαιδευτικό πρόγραμμα τέχνης. Επίσης τα παιδιά θα κληθούν σε συνέντευξη που θα έχει τη μορφή ομαδικής συζήτησης. Η παρατήρηση θα διαρκέσει από τον Οκτώβριο 2011 έως το Νοέμβριο 2012. Οι

παρατηρήσεις και οι συνεντεύξεις θα βιντεοσκοπηθούν. Τα δεδομένα των βιντεοσκοπήσεων θα χρησιμοποιηθούν μόνο για το σκοπό της έρευνας και θα τηρηθεί η ανωνυμία των συμμετεχόντων.

Στοιχεία Επικοινωνίας της Ερευνήτριας:

Όνοματεπώνυμο: Ανδριάννα Παπαχρυσανθάκη

Τμήμα: Παιδαγωγικό

Διεύθυνση Πανεπιστημίου: Roehampton University,

Roehampton Lane, SW15 5PJ

Email: apapachrisanthaki@yahoo.gr

Τηλέφωνο: 00447929291788

Δήλωση Συναίνεσης:

Συμφωνώ να λάβω μέρος στην παρούσα έρευνα και είμαι ενήμερος/η ότι έχω τη δυνατότητα να αποσυρθώ όποτε θελήσω από αυτήν. Κατανοώ ότι τα δεδομένα της έρευνας θα φυλαχθούν σε ασφαλές μέρος και η ταυτότητά μου θα προστατευθεί κατά τη δημοσίευση των αποτελεσμάτων.

Όνοματεπώνυμο:

Υπογραφή:

Ημερομηνία:

Μη διστάσετε να επικοινωνήσετε με την επιβλέπουσα καθηγήτρια της ερευνήτριας ή την επικεφαλής του Παιδαγωγικού τμήματος για περαιτέρω θέματα που αφορούν στη συμμετοχή του παιδιού σας στην έρευνα.

Στοιχεία Επικοινωνίας:

Καθηγήτρια Rachel Mason
Holness

Roehampton University,
Roehampton Lane, SW15 5PJ

Telephone: 004420 8392 3009

R.Mason@roehampton.ac.uk

Επικεφαλής του Τμήματος: Marilyn

Roehampton University

Roehampton Lane, SW15 5PJ

Telephone: 0044 20 8392 3374

Appendix 9



ΣΥΜΒΟΥΛΙΟ ΗΘΙΚΩΝ ΘΕΜΑΤΩΝ

ΕΝΓΡΑΦΟ ΣΥΓΚΑΤΑΘΕΣΗΣ ΤΩΝ ΚΗΛΕΜΟΝΩΝ ΤΩΝ ΣΥΜΜΕΤΕΧΟΝΤΩΝ ΣΤΗΝ ΕΡΕΥΝΑ

Τίτλος του ερευνητικού έργου:

Η ανάπτυξη επικοινωνιακών και κοινωνικών δεξιοτήτων παιδιών με αυτισμό προσχολικής ηλικίας στο νηπιαγωγείο μέσω ενός εκπαιδευτικού προγράμματος τέχνης με τη χρήση του iPad. Μεθοδολογική Προσέγγιση: Έρευνα Δράσης.

Συνοπτική Περιγραφή του Ερευνητικού Έργου:

Στόχος της παρούσας έρευνας είναι η ανάπτυξη, δοκιμή και αξιολόγηση ενός εκπαιδευτικού προγράμματος τέχνης με τη χρήση του iPad για παιδιά με αυτισμό προσχολικής ηλικίας (4- 7 χρόνων), που είναι ενταγμένα σε νηπιαγωγείο/ τμήμα ένταξης στην Ελλάδα. Η έρευνα θα εξετάσει τη βελτίωση της επικοινωνιακών λειτουργιών και κοινωνικών δεξιοτήτων των παιδιών με αυτισμό με τους συμμαθητές και εκπαιδευτικούς τους κατά τη διάρκεια συμμετοχής τους στο πρόγραμμα διδασκαλίας πέντε μαθημάτων.

Η ομάδα του ερευνητικού έργου θα αποτελείται από την ερευνήτρια, την προϊσταμένη του νηπιαγωγείου και τη νηπιαγωγό ειδικής αγωγής. Το πρόγραμμα των μαθημάτων θα διδαχθεί σε μικρές ομάδες των παιδιών μεμονωμένα. Οι νηπιαγωγοί θα συνεργαστούν με την ερευνήτρια για την από κοινού ανάπτυξη, εκτέλεση και αξιολόγηση του εκπαιδευτικού προγράμματος. Ο κύριος στόχος της έρευνας θα είναι η παρατήρηση των παιδιών με αυτισμό που φοιτούν στο συγκεκριμένο νηπιαγωγείο και έχουν διαγνωσθεί από το Κέντρο Διάγνωσης και Αξιολόγησης (ΚΕΔΔΥ) στην Ελλάδα. Η διδασκαλία του προγράμματος θα βιντεοσκοπηθεί. Τα δεδομένα των βιντεοσκοπήσεων θα χρησιμοποιηθούν μόνο για το σκοπό της έρευνας και θα τηρηθεί η ανωνυμία των συμμετεχόντων.

Στοιχεία Επικοινωνίας της Ερευνήτριας:

Όνοματεπώνυμο: Ανδριάννα Παπαχρυσανθάκη

Τμήμα: Παιδαγωγικό

Διεύθυνση Πανεπιστημίου: Roehampton University,

Roehampton Lane, SW15 5PJ

Email: apapachrisanthaki@yahoo.gr

Τηλέφωνο: 6946325 ■■■

Δήλωση Συναίνεσης:

Δίνω την συγκατάθεσή μου το παιδί μου να λάβει μέρος στην παρούσα έρευνα και είμαι ενήμερος/η ότι έχει τη δυνατότητα να αποσυρθεί όποτε θελήσει από αυτήν.

Κατανοώ ότι τα δεδομένα της έρευνας θα φυλαχθούν σε ασφαλές μέρος και η ταυτότητά του θα προστατευθεί κατά τη δημοσίευση των αποτελεσμάτων.

Όνοματεπώνυμο:

Υπογραφή:

Ημερομηνία:

Μη διστάσετε να επικοινωνήσετε με τον επιβλέποντα καθηγητή της ερευνήτριας για περεταίρω θέματα που αφορούν στη συμμετοχή του παιδιού σας στην έρευνα.

Στοιχεία Επικοινωνίας:

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Appendix 10



ΣΥΜΒΟΥΛΙΟ ΗΘΙΚΩΝ ΘΕΜΑΤΩΝ

ΕΝΓΓΡΑΦΟ ΣΥΓΚΑΤΑΘΕΣΗΣ ΤΩΝ ΕΚΠΑΙΔΕΥΤΙΚΩΝ ΠΟΥ ΣΥΜΜΕΤΕΧΟΥΝ ΣΤΗΝ ΕΡΕΥΝΑ

Τίτλος του ερευνητικού έργου:

Η ανάπτυξη επικοινωνιακών και κοινωνικών δεξιοτήτων παιδιών με αυτισμό προσχολικής ηλικίας στο νηπιαγωγείο μέσω ενός εκπαιδευτικού προγράμματος τέχνης με τη χρήση του iPad. Μεθοδολογική Προσέγγιση: Έρευνα Δράσης.

Συνοπτική Περιγραφή του Ερευνητικού Έργου:

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Η ομάδα του ερευνητικού έργου θα αποτελείται από την ερευνήτρια, την προϊσταμένη του νηπιαγωγείου και τη νηπιαγωγό ειδικής αγωγής. Το πρόγραμμα των μαθημάτων θα διδαχθεί σε μικρές ομάδες των παιδιών μεμονωμένα. Οι νηπιαγωγοί θα συνεργαστούν με την ερευνήτρια για την από κοινού ανάπτυξη, εκτέλεση και αξιολόγηση του εκπαιδευτικού προγράμματος. Ο κύριος στόχος της έρευνας θα είναι η παρατήρηση των παιδιών με αυτισμό που φοιτούν στο συγκεκριμένο νηπιαγωγείο και έχουν διαγνωσθεί από το Κέντρο Διάγνωσης και Αξιολόγησης (ΚΕΔΔΥ) στην Ελλάδα. Η διδασκαλία του προγράμματος θα βιντεοσκοπηθεί. Τα δεδομένα των βιντεοσκοπήσεων θα χρησιμοποιηθούν μόνο για το σκοπό της έρευνας και θα τηρηθεί η ανωνυμία των συμμετεχόντων.

Στοιχεία Επικοινωνίας της Ερευνήτριας:

Όνοματεπώνυμο: Ανδριάννα Παπαχρυσανθάκη

Τμήμα: Παιδαγωγικό

Διεύθυνση Πανεπιστημίου: Roehampton University,

Roehampton Lane, SW15 5PJ

Email: apapachrisanthaki@yahoo.gr

Τηλέφωνο: 6946325 ■■■

Δήλωση Συναίνεσης:

Συμφωνώ να λάβω μέρος στην παρούσα έρευνα και είμαι ενήμερος/η ότι έχω τη δυνατότητα να αποσυρθώ όποτε θελήσω από αυτήν. Κατανοώ ότι τα δεδομένα της έρευνας θα φυλαχθούν σε ασφαλές μέρος και η ταυτότητά μου θα προστατευθεί κατά τη δημοσίευση των αποτελεσμάτων.

Όνοματεπώνυμο:

Υπογραφή:

Ημερομηνία:

Μη διστάσετε να επικοινωνήσετε με τον επιβλέποντα καθηγητή της ερευνήτριας για περεταίρω θέματα που αφορούν στη συμμετοχή του παιδιού σας στην έρευνα.

Στοιχεία Επικοινωνίας:

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Appendix 11

JANUARY 2012-FEBRUARY 2012

RESEARCH CYCLE 1

RESEARCHER'S OBSERVATION LIST

Researcher non participant observations during art activity sessions.

Aim: To record the strengths and limitations of 4 individual autistic children regarding their social and communicative skills, their current performance and learning processes during visual art activities and to inquire into the effect of the visual arts activities on their social and communication skills.

Class:

Date and Time:

Class Number of Children:

Lesson Title- Activities:

Duration:

1. LESSON ACTIVITY

PART A

| |
|--|
| Description of the visual art activity (part of the day that the activity takes place) and the nature and sequence of the activity. |
| |
| How does the teacher describe the activity (instructions and verbal and non – verbal reactions). |
| |
| Classroom equipment, resources and materials available for the conduct of the current visual art activity. |
| |
| Learning aims. |

| |
|--|
| |
|--|

| | *CHILD 1 | *CHILD 2 | *CASE STUDY | *CHILD 3 | *CHILD 4 |
|---|-----------------|-----------------|--------------------|-----------------|-----------------|
| Evidence of development of visual art learning process/ acquisition of art skills during the current visual art activity. | | | | | |
| Evidence of the positive impact of equipment and materials, used during the visual art activity, on the learning process and skills of the child. | | | | | |
| Evidence of the highest enjoyment and motivation at a particular instant during the visual art activity. | | | | | |
| Record of the exact instant during the visual art activity when communicative and social skills most take place. | | | | | |

PART B

***COMMUNICATION SKILLS**

| | CHILD 1 | CHILD 2 | CASE STUDY | CHILD 3 | CHILD 4 |
|--|----------------|----------------|-------------------|----------------|----------------|
| CONVERSATION SKILLS | | | | | |
| Does the child address the speech to teachers/peers? | | | | | |
| Evidence of speech comprehension. | | | | | |

| | | | | | |
|--|--|--|--|--|--|
| Evidence of the child attends to when teacher speaks. | | | | | |
| COMMUNICATIVE FUNCTIONS | | | | | |
| Does the child ask for equipment and materials during the visual art activity? | | | | | |
| Does the child ask for assistance to complete the visual art activity? | | | | | |
| NON-VERBAL COMMUNICATION | | | | | |
| Evidences of gestures and signing towards the teachers and peers. | | | | | |

***SOCIAL SKILLS**

| | CHILD 1 | CHILD 2 | CASE STUDY | CHILD 3 | CHILD 4 |
|--|----------------|----------------|-------------------|----------------|----------------|
| EYE CONTACT/ IMITATION OF PEERS' ACTIONS | | | | | |
| How much does the child have an eye contact or observe his/her peers during the visual art activity? | | | | | |
| Does the child remain in his/her group during the visual art activity or follow his/her peers in different places for the purposes of the current visual art activity? | | | | | |
| SOCIAL RECIPROCITY | | | | | |
| Evidence of turn taking regarding the use of equipment and materials | | | | | |

| | | | | | |
|---|--|--|--|--|--|
| needed for the current visual art activity. | | | | | |
| Evidence of give and take in of child's interactions. | | | | | |
| ADAPTATION OF RECOMENDED CHANGES NEEDED FOR THE CONDUCT OF THE CURRENT VISUAL ART ACTIVITY | | | | | |
| Does the child easily adapt to recommended changes regarding materials or groups of children? | | | | | |

***The communicative and social skills criteria are based on the TEACCH Programme (Treatment and Education of Autistic and Communication Handicapped Children) and the National Greek Curriculum for children with autism.**

***Child 1, Child 2, Child 3 and Child 4: Neurotypical peers.**

Child with ASD: One of the four children with autism that has been selected to be observed in each activity.

Appendix 12

OCTOBER 2013

RESEARCH PHASE 2

TEACHER'S OBSERVATION LIST

Group:

Date and Time:

Group Number of Children:

Lesson Title:

Duration:

PART A

| | |
|--|--|
| Evidence of development of visual art learning process/ acquisition of skills during the current activity. | |
| Evidence of the positive impact of equipment and materials, used during the activity, on the learning process and skills of the child. | |
| Evidence of the highest enjoyment and motivation at a particular instant during the activity. | |

PART B

***COMMUNICATION SKILLS**

| CONVERSATION SKILLS | Notes |
|---|--------------|
| Does the child address the speech to teachers/peers? | |
| Evidence of speech comprehension. | |
| Evidence of the child attends to when teacher speaks. | |
| COMMUNICATIVE FUNCTIONS | |

| | |
|---|--|
| Does the child ask for equipment and materials | |
| Does the child ask for assistance to complete the activity? | |
| NONVERBAL COMMUNICATION | |
| Evidences of gestures and signing towards the teachers and peers. | |

SOCIAL SKILLS

| | |
|---|--|
| EYE CONTACT/IMITATION OF PEERS' ACTIONS | |
| How much does the child have an eye contact or observe his/her peers during the session | |
| Does the child remain in his/her group during the session or follow his/her peers in different places for the purposes of the current activity? | |
| SOCIAL RECIPROCITY | |
| Evidence of turn taking regarding the use of equipment and materials needed for the current activity. | |
| Evidence of give and take in of child's interactions. | |
| ADAPTATION OF RECOMENDED CHANGES NEEDED FOR THE CONDUCT OF THE CURRENT VISUAL ART ACTIVITY | |
| Does the child easily adapt to recommended changes regarding materials or groups of children? | |

Appendix 13a

May 2015

SPECIAL NEEDS TEACHER’S OBSERVATION LIST

Group:

Date and Time:

Group Number of Children:

Lesson Title:

Duration:

PART A

| | |
|---|--|
| Evidence of development of visual art learning process/ acquisition of skills during the current activity. | |
| Evidence of the positive impact of equipment and materials, used during the activity, on the learning process and skills of the child. | |
| Evidence of the highest enjoyment and motivation at a particular instant during the activity. | |

PART B

***COMMUNICATION SKILLS**

| | |
|---|--|
| CONVERSATION SKILLS | |
| Does the child address the speech to teachers/peers? | |
| Evidence of speech comprehension. | |
| Evidence of the child attends to when teacher speaks. | |

| | |
|---|--|
| COMMUNICATIVE FUNCTIONS | |
| Does the child ask for equipment and materials | |
| Does the child ask for assistance to complete the activity? | |
| NON-VERBAL COMMUNICATION | |
| Evidences of gestures and signing towards the teachers and peers. | |

SOCIAL SKILLS

| | |
|---|--|
| EYE CONTACT/ IMITATION OF PEERS' ACTIONS | |
| How much does the child have an eye contact or observe his/her peers during the session | |
| Does the child remain in his/her group during the session or follow his/her peers in different places for the purposes of the current activity? | |
| SOCIAL RECIPROCITY | |
| Evidence of turn taking regarding the use of equipment and materials needed for the current activity. | |
| Evidence of give and take in of child's interactions. | |
| ADAPTATION OF RECOMENDED CHANGES NEEDED FOR THE CONDUCT OF THE CURRENT VISUAL ART ACTIVITY | |
| Does the child easily adapt to recommended changes regarding materials or groups of children? | |

Appendix 13b

(Example of SEN Teacher completed observation list- SEN teacher's notes are presented in italics)

SPECIAL NEEDS TEACHER'S OBSERVATION LIST

Research Cycle 3

Group: 1

Date and Time: 22/10/2013, 10 am

Group Number of Children: 4

Lesson Title: Session 2/ Modelling figures to animate

Duration: 40 min

PART A

| | |
|---|--|
| Evidence of development of visual art learning process/ acquisition of skills during the current activity. | <ul style="list-style-type: none">- <i>He used his fingers to roll the plasticine.</i>- <i>He cut little pieces of plasticine and tried to form a figure.</i> |
| Evidence of the positive impact of equipment and materials, used during the activity, on the learning process and skills of the child. | <ul style="list-style-type: none">- <i>I think that he had the opportunity to develop some of his fine motor skills, by rolling and squeezing the plasticine to create his figure.</i>- <i>He also learned to use different colours of plasticine by naming some of them, e.g., he said 'yellow sun'.</i> |
| Evidence of the highest enjoyment and motivation at a particular instant during the activity. | <ul style="list-style-type: none">- <i>He moved his hands up and down when the teacher drew the pictures and when he</i> |

| | |
|--|---------------------------------------|
| | <i>finished modelling his figure.</i> |
|--|---------------------------------------|

PART B

***COMMUNICATION SKILLS**

| CONVERSATION SKILLS | |
|---|---|
| Does the child address the speech to teachers/peers? | <ul style="list-style-type: none"> - <i>He did not use any spontaneous verbal communication.</i> - <i>He repeated some words after the teacher.</i> |
| Evidence of speech comprehension. | <ul style="list-style-type: none"> - <i>He seemed to understand and follow the instructions.</i> - <i>He repeated some words.</i> |
| Evidence of the child attends to when teacher speaks. | <ul style="list-style-type: none"> - <i>He focused when the teacher started narrating the story and when she was drawing the pictures.</i> - <i>He was looking at the pictures.</i> |
| COMMUNICATIVE FUNCTIONS | |
| Does the child ask for equipment and materials? | <ul style="list-style-type: none"> - <i>He did not ask for any equipment.</i> - <i>He asked only for a yellow piece of plasticine, using a 2 words sentence 'yellow sun'.</i> |

| | |
|---|--|
| Does the child ask for assistance to complete the activity? | - <i>He did not ask for any help.</i> |
| NON-VERBAL COMMUNICATION | |
| Evidences of gestures and signing towards the teachers and peers. | - <i>He moved his hands up and down, showing his excitement.</i> |

SOCIAL SKILLS

| | |
|---|--|
| EYE CONTACT/IMITATION OF PEERS' ACTIONS | |
| How much does the child have an eye contact or observe his/her peers during the session | - <i>He had a few instances of eye contact during story narration, when teacher drew his figure and said 'this is Pater'.</i> |
| Does the child remain in his/her group during the session or follow his/her peers in different places for the purposes of the current activity? | - <i>He remained in the group during the whole session.</i> |
| SOCIAL RECIPROCITY | |
| Evidence of turn taking regarding the use of equipment and materials needed for the current activity. | - <i>He shared the plasticine with his peers.</i> - <i>He seemed impatient while waiting to take some more plasticine, he needed to be reminded to wait for his turn.</i> |
| Evidence of give and take in of child's interactions. | - <i>He waited for his turn to take some pieces of plasticine.</i> |

| | |
|--|---|
| <p>ADAPTATION OF RECOMENDED CHANGES NEEDED FOR THE CONDUCT OF THE CURRENT VISUAL ART ACTIVITY</p> | |
| <p>Does the child easily adapt to recommended changes regarding materials or groups of children?</p> | <ul style="list-style-type: none"> - <i>He adapted easily and followed the teacher and the group in the class next to the reception class, where the session took place.</i> |

Appendix 14

ΦΥΛΛΟΠΑΡΑΤΗΡΗΣΗΣ- OBSERVATION LIST

Ερευνητική Φάση:.....

Group:

ΗΜΕΡΟΜΗΝΙΑ/ ΩΡΑ:

ΑΡΙΘΜΟΣ ΠΑΙΔΙΩΝ:

ΜΑΘΗΜΑ:

ΔΙΑΡΚΕΙΑ:

ΜΕΡΟΣ Α

| | |
|--|--|
| Ενδείξεις ανάπτυξης ικανοτήτων στη συγκεκριμένη δραστηριότητα | |
| Ενδείξεις πιθανών θετικών επιπτώσεων των υλικών στη μαθησιακή διαδικασία και στην ανάπτυξη ικανοτήτων του παιδιού. | |
| Ενδείξεις διασκέδασης του παιδιού σε συγκεκριμένη στιγμή της δραστηριότητας. (Highest enjoyment at a particular instant) | |

ΜΕΡΟΣ Β

ΕΠΙΚΟΙΝΩΝΙΑ

| | |
|--|--|
| ΔΕΞΙΟΤΗΤΕΣ ΣΥΖΗΤΗΣΗΣ | |
| Απευθύνει το λόγο σε κάποιον | |
| Κατανοεί όταν του απευθύνουν το λόγο | |
| Παρακολουθεί όταν κάποιος μιλάει | |
| ΛΕΙΤΟΥΡΓΙΕΣ ΤΗΣ ΕΠΙΚΟΙΝΩΝΙΑΣ | |
| Ζητά βοήθεια | |
| Ζητά αντικείμενα/ να επαναληφθεί δραστηριότητα | |
| ΜΗ ΛΕΚΤΙΚΗ ΕΠΙΚΟΙΝΩΝΙΑ | |
| Χειρονομίες και Νοήματα | |

ΚΟΙΝΩΝΙΚΕΣ ΔΕΞΙΟΤΗΤΕΣ

| | |
|--|--|
| ΒΛΕΜΜΑΤΙΚΗ ΕΠΑΦΗ | |
| Έχει βλεμματική επαφή | |
| ΚΟΙΝΩΝΙΚΗ ΑΝΤΑΠΟΚΡΙΣΗ | |
| Παραμένει στην ομάδα/ ακολουθεί κανόνες/ ακολουθεί τους συμμαθητές | |
| Περιμένει τη σειρά του για χρήση υλικών ή άλλης διαδικασίας | |
| Μοιράζεται υλικά/ δίνει αντικείμενα | |

| | |
|--|--|
| Προσαρμόζεται σε αλλαγές που πιθανόν να προκύπτουν | |
|--|--|

Appendix 15a

Archival Information Sheet

Reflective Notes- Meeting with Teachers- Formative Evaluation

Research Cycle:

| | |
|--|--|
| Method of recording data | |
| Group observed | |
| Date | |
| Person who taught | |
| Person who was assistant | |
| Person who collected and transcribed data | |
| Lesson | |

Documentation of Video recording (Reflection)

| Time | Researcher | (Headteacher) | SEN Teacher |
|-------------|-------------------|----------------------|--------------------|
| | | | |
| | | | |
| | | | |

Appendix 15b

(Example of video recording reflection notes/ coded and numbered)

Archival Information Sheet

Reflective Notes- Meeting with Teachers- Formative Evaluation

Research Cycle:

| | |
|--|---|
| Method of recording data | Video recording |
| Group observed | Group 2 |
| Date | 19/05/2015 |
| Person who taught | Researcher |
| Person who was assistant | SEN Teacher |
| Person who collected and transcribed data | Researcher |
| Lesson | Session 2- Modelling figures to animate (story line and action) |

Documentation of Video recording (Reflection)

| Time | Researcher | (Headteacher) | SEN Teacher |
|--|---|--|--|
| 0'- 3'50'' 6 1 | Peter is sitting nicely at the beginning of the session. He is looking at me, while I am explaining the procedure of the task. He gets a bit anxious, by moving his body back and forward on his chair. | He might find it difficult to remain focused for longer until the practical part of the task begins. | Both on and off task could be due to the fact that this is the second time he is participating in this activity. |
| 3'50''- 4'50'' 7, 13, 15, 16 | During the story, his attention flits, but he is still on task. When I introduce the markers and drawings, he seems interested. Specifically, he | Peter may be finding verbal language difficult to follow. Though he shows his excitement by moving his hands. There are on and off | He starts to lose interest in the story. However, the use of pictures during narration seemed to have helped him to re-engage. |

| | | | |
|---|---|--|---|
| <p>6, 7, 13, 15, 16</p> | <p>moved his body closer to the table to have a look on the drawings. He repeated after me <i>'This is Peter'</i> when I drew his figure. He moved his hands up and down.</p> | <p>incidents of engagement.</p> | |
| <p>9'50''-10'50''</p> <p>1, 3, 20</p> <p>1, 3, 4, 7, 17, 20</p> | <p>When the other children are trying to answer on my questions, he does not actively join verbally. The SEN teacher is trying to guide him answer using single words.</p> | <p>I think that he finds it difficult to answer open questions. He needs more guidance. Also, his peers are over-active and talking a lot- they might have distracted him.</p> | <p>He is again off task, but when I show him the drawing and use single words he is re-engaged. I believe that he has a more visual stimulus.</p> |
| <p>11'00''-12'00''</p> <p>1, 6, 7, 11, 12</p> <p>1, 4, 6, 7</p> <p>11, 12, 13</p> <p>11, 12, 13</p> | <p>He moves his body closer, placing his hands on the table close to the drawings. He seems that he wants to have a closer look. He repeats his name twice.</p> | <p>He seems re-engaged.</p> | <p>Yes, he seems re-engaged; probably because he is interested on the drawing that represents himself.</p> |
| <p>16'00''-17'00''</p> <p>11, 12</p> | <p>He starts moving his hands again.</p> | <p>He seems excited.</p> | <p>He uses gestures to show his excitement.</p> |
| <p>19'00''-18'00''</p> <p>11, 12</p> <p>13, 15</p> <p>11, 12</p> | <p>He moved his chair forward, when I placed the plasticine on the table. He seems excited, he smiles.</p> | <p>He is on task, almost during the whole time of plasticine task, even if it is difficult to remain sat down and focused for such an extended period of time.</p> | <p>Plasticine is one of his favourite art mediums. He enjoys using plasticine and play-dough during free activities as well.</p> |
| <p>20'50''-21'50''</p> <p>1, 3, 10, 12, 18</p> | <p>The SEN teacher guides him verbally how to model his plasticine. Then she places her hands on top of his. She asks</p> | <p>He seems more focused now, and follows instructions.</p> | <p>He allows me to help him by placing my hands on his.</p> |

| | | | |
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| 1, 3, 10, 12, 18 | him to press. He uses both of his hands and follows her instruction. | | |
| 24'00''- 25'00'' 1, 4, 15 1, 4, 15 | He points at blue plasticine. The SEN teacher says ' <i>take this</i> ' and he repeats ' <i>take this</i> '. | He is included and focused. Now he seems to request and point. Plasticine seems to be valuable and effective. | Plasticine seems motivating for him. |
| 27'00''- 28'00'' 1, 12 1, 12 | The SEN teacher praises him and he smiles. | | He seems enthusiastic. |
| 28'00''- 29'00'' 2, 4, 6, 8, 9, 15 2, 6, 9, 15 | Peter says ' <i>yellow sun</i> ', his peer gives him a piece of yellow plasticine and he takes it. | He shows some spontaneous verbal communication. He wants to continue modelling with plasticine. | Also, he presented eye contact with his peer when he gave him the yellow plasticine. |

APPENDIX 16

Coding Patterns for Data Analysis and Identification of Themes

| Action Step I Patterns- Open coding | Action Step II Categories- Concepts to assess Research Questions | Action Step III Identifying Themes |
|---|---|--|
| 1. Adult and child interaction | Social Interaction and Communication 1, 2, 3,4,5,6,7,8,9,10,24 | Effect of Current Art Curriculum |
| 2. Peer interaction | Task Participation (being on/off task) 2,3,4,5,6,7,8,9,10,11,12,24 | Educational Effect of the Visual Arts Curriculum Unit |
| 3. Prompting interaction | Teaching Strategies- Instructions and Strategies for teaching Young Children with Autism 1,3,16,17,18,19,20,21,22,23,24 | Effect of the Visual Arts Curriculum Unit on Social Interaction and Task Participation on the Children with Autism |
| 4. Oral communication | Content- Instructional Media and Resources 13,14,15,16,17,18,19,20,21,22,23 | Effect of Collaborative Action Research |
| 5. Conversation skills | Instructional Media and Resources - Behaviours/Responses of Children with ASD to the Story Line, iPad and Plasticine 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15 | |
| 6. Eye contact | Action Research for Curriculum Development 25 | |

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| | | |
| 7. Remain in the group | Reflective Practice and Collaboration 25 | |
| 8. Waiting for their turn/ Take turns | | |
| 9. Sharing materials/tools/ give and take | | |
| 10. Following rules/ tasks | | |
| 11. Levels of enjoyment | | |
| 12. Levels of motivation (motivation for task participation) | | |
| 13. Art tools and materials (paper, markers, glue, tempera paint, scissors) | | |
| 14. iPad | | |
| 15. Plasticine | | |
| 16. Visual art practices | | |
| 17. Visual aids | | |
| 18. Interactive demonstration | | |
| 19. Sequence lists | | |
| 20. Narrating a story | | |
| 21. Drawing pictures | | |
| 22. Designed lessons | | |

| | | |
|---|--|--|
| 23. Learning Objectives | | |
| 24. Environment/ classroom setting | | |
| 25. Professional issues: meetings, completing forms, work as an action team, investing time outside of school, reflection and evaluation. | | |

Appendix 17

Story: A little bird found in the school yard

Once upon a time there were four friends. One shiny day the four friends were playing in their school yard. Suddenly as they were running among the trees one of them heard a little bird's peep and said to the rest

'Oh, can you hear this tweet?'

'Yes, it's coming from this little bush around that tree', said the other one.

As the four friends got nearer and nearer to the bush, the bird's peep was becoming stronger and stronger. The friends looked carefully into the bush; under the tree and guess what they found. They found a little baby bird!

'Oh, what shall we do? The little bird needs our help!', said one of the friends.

It was that time that the four friends had to help the little bird to find his home; they had to think of a solution; how would they help him!

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