



*And why should I go to the museum?*

**The museum as a learning arena for the kindergarten**

**Examples from Norway and Greece**



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*I listen and forget,*

*I see and remember,*

*I do and understand.*

**Old Chinese proverb**

*Στον αγαπημένο μου γιό Ούλαφ Σπύρο*

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## **ABSTRACT**

This study presents the concepts in practice regarding museum as a learning arena for kindergarten children. Information was obtained by kindergarten teachers both in Norway and in Greece, through questionnaires. The findings indicated that kindergarten teachers in Norway and in Greece have a positive attitude towards museum use in relation to their National Curriculum for the kindergarten. Consequently, almost all the fields of the Norwegian and the Greek Curriculum for kindergarten can be connected with the museum uses, according to the research findings. The findings supported the literature, suggesting that kindergarten teachers' acquired knowledge related to museum education affects their museum uses. Additionally, it was indicated that there is a connection between the awareness of kindergarten teachers regarding learning in a museum context and museum uses through designing and carrying out of their own programs for their kindergarten children inside the museum setting. Furthermore, the impacts on preschool children of their participation in museum educational programs are positive and related to the learning theories, according to both Norwegian and Greek kindergarten teachers. In order to investigate these concepts, the researcher used questionnaires distributed to kindergarten teachers in Greece (Athens) and Norway (Tromsø and Oslo) and which were analyzed quantitatively.

**Keywords:** learning, museum education, kindergarten, curriculum, Norway, Greece.

## FOREWORD

Museums are considered as rich, joyful and stimulating environments which provide opportunities for learning and involve emotional and motivational cues for children. The present study is an outcome of the researcher's personal interest about the learning perspectives in the museum for kindergarten children. Regarding its structure, this study includes two parts: the theoretical and the empirical.

The theoretical part begins with Chapter 1, where an elucidation of terms which will hinder this dissertation is displayed. Specifically, it includes an introduction to the theories of the learning process and the learning perspectives for preschool children. In addition, there is a reference to both the Norwegian and Greek kindergarten regarding their educational and operation practice. Finally, there are stated relevant earlier research on learning in the museum and the research questions which will be investigated in the specific study.

In Chapter 2 it is discussed the connection of different learning theories with museum education, such as constructivism, Multiple Intelligences theory and experiential learning approaches. Moreover, there is a reference relatively to the museum as an informal learning environment and its contribution to aesthetic appreciation and development of visual literacy. Especially, it is illustrated the Norwegian and Greek National Curriculum for kindergarten and their connection with learning in the museum. Lastly, there is a presentation regarding the practice of museum educational programs for kindergarten, their evaluation, and there are given three examples of observed programs in museums.

The empirical part of this study is underlain in Chapter 3, which refers to the research design; specifically, it is illustrated the choice of the research tool in the specific investigation, which is the questionnaire. In addition, Chapter 4 is addressed to the choice of subjects of this study, as well to the procedure of the data collection and the reliability and validity of the research. Chapter 5 concerns the quantitative analysis of the gathered data, both descriptively and preliminarily. Finally, Chapter 6 includes the discussion of the results in relation to the research questions and the literature overview. The researcher is conducted into her conclusions and takes into consideration the limitations of this study. Thus, she suggests research possibilities for further investigations in relations to the findings.

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# CHAPTER ONE – INTRODUCTION

## 1.1 Statement of the problem

In the late years discussions concerning the process of learning are more and more frequent. While learning traditionally is understood as the acquisition of knowledge and skills, nowadays, an extent field of emotional, social and communal dimensions is included in this perspective. The context of learning refers both to the skills and knowledge as well as the meanings, values, concepts and behaviors, which can contribute in the construction of understanding and perception (Illeris 2009).

The museum is a place with an intense social, educational and entertaining role which, through its educational programs, facilitates social interaction among children and aims at their emotional, social and cognitive development; particularly, it encourages critical thinking, creativity, discovery and initiative. Museum experience is in the borders between enjoyment and learning. The communicative role of the post-modern museum is a part of the reasons why there is a rapid growth in interest towards museums. Since museums offer unusual and effective experiences, are, therefore, considered unique learning environments. The role of the museum has changed from merely *exhibiting objects* to *interaction with objects*. Visitors approach museum settings based on their own meanings, experiences, knowledge and values. Gardner (1991) claims that museums interest children since they are settings wherein children can *discover, do, interact, understand, and thereafter, learn*.

The overall objective of this study is to gain an understanding of the educational role of the museum in the preschool age. The conclusions will be resulting from the investigation of kindergarten teachers' concepts regarding learning in the museum and the quote of museum educational programs for preschool children. As the background of this researcher is from Greece, and her study place is located in Norway, the investigation will include both countries; this will, eventually, lead in a comparison of the results from the two countries in order to examine if there is any differentiation of the kindergarten teachers' concepts related to the impact on preschool children of museum as a learning arena and its connection with the National Curricula for kindergarten in both countries.

## 1.2 Background information

### 1. 2. 1 *Museum and museum education*

Museum<sup>1</sup> is undoubtedly a valuable source of cultural, historical, scientific and aesthetic knowledge. According to current definitions<sup>2</sup>, museums are institutions in the service of the society and its development and open to the public; they aim at the acquisition, maintenance, investigation, documentation, communication and exhibition of humans' material testimonies and their environment, for the purposes of study, education and entertainment. However, in the mind of many people, visiting a museum is still characterized by passivity and is restricted to a simple observation of the exhibits, whereby the public is unable to interact with the museum objects.

In the nineteenth-century, museum acknowledgement as an educational institute was already accomplished. However, it was George Brown Goode<sup>3</sup> who highlighted the *efficient* role of the museum (Hein 2006 cited in Macdonald 2006). In the recent years, museum education<sup>4</sup> has acquired a considerable growing interest. Changes in education concern a turn of interest from the didactic-behaviouristic methods towards learning models requiring the active participation of children. Education at the museum focuses on the enrichment of experiences through the process of experimental active learning and aims at the meaning rather than the barrage of information.

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<sup>1</sup>The word *Museum* in nowadays doesn't address to the same meaning as the Greek word *Μουσείον* (Mouseion) where its roots belong to. In the ancient years the word *Μουσείον* referred to the place of worship of Muses, ancient Goddesses of Art, Music, Poetry, Dance, etc. The term took the same meaning as today during the period of Renaissance (Kakourou-Xroni 2010).

<sup>2</sup>International Council of Museums (2007), "museum is a non-profit, permanent institution in the service of the society and its development, open to the public, which acquires, conserves, researches, communicates, and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment", [http://archives.icom.museum/hist\\_def\\_eng.html](http://archives.icom.museum/hist_def_eng.html).

<sup>3</sup>George Brown Goode, curator and administrator at the Smithsonian Institution (1851-96).

<sup>4</sup>Museum education or museum learning or museum pedagogy are terms that are used to define "the applied education with action setting the museum and the scientific direction which assists in fulfilling the educational role of the museum to the community" (Nikonanou 2010:15).

Moreover, the learning perspectives in the museum are rapidly developed in the last four decades. Many museums in the world are reviewing and enriching their social and educational role with the pursuit of productive pedagogical and cultural policies. The operation of the museum includes the presentation of objects and collections, and the designing and implement of various educational projects for school groups and adults. The teacher, by including museum educational projects in her curriculum, offers children the opportunity to be familiar with the term *museum*; therefore, she can use it as a means of enriching knowledge and awareness regarding different thematic areas.

The late 30 years museum is also open to communication with its audience. It is a fact that most of the visitors think of their museum visit as a social activity during their leisure time. Nevertheless, it is highlighted that early childhood's visiting experiences can have positive impacts on individuals and can be connected with "sustained museum visitation in the future" (Zapri 2004:64). Pierre Bourdieu (Bourdieu et al. 1991) researched visitors at different art museums in Europe (included Greece), and noticed that their *cultural capital* which is a heritage of their family and social surroundings, and is also enhanced by the educational system, can be related as well to their relationship with the museum and their museum experiences.

Therefore, it is necessary to take into account the following elements regarding museums: the communication between the museum and the audience, the careful design of the interpreting tools (interactive exhibits, sort explanatory texts, accompanying maps, images and graphics, etc.), the ensuring of the physical dimension of the visit (easy orientation, rest and entertainment areas, etc.), and the bringing of minority and marginalized social groups closer with programs organized inside and outside the museum. Hereby, Bourdieu's (Bourdieu et al. 1991) research highlighted some of museum characteristics related to its potentials for visiting, such as its easy accessibility and the type of presenting the exhibits.

In particular, regarding its educational role, museum education includes designed activities which are defined by some specific didactic aims. In relation to these activities, they could be, for example, collecting objects, designing exhibitions, or educational programs for school groups or adults. Part of the museum education is Museum Pedagogy which investigates scientifically the pedagogical and museological

principles determining the context of the educational design of the programs and their evaluation policies (Hooper-Greenhill 1991).

### ***1.2.1.1 Museums in Norway and Greece***

Museums in Norway started firstly at a local level whereas nowadays there're can be found in small communities as well. There are about 500 museums in the country and most of them (around 300) belong to the National Museum Association of Norway. Moreover, the Arts Council of Norway<sup>5</sup> has also an important role to the development of new museum sectors in the country, both in local and national level (Zenetou 1996 cited in Glaser & Zenetou 1996).

On the other hand, the first National Museum of Greek Antiquities was established in 1829, after the Greek War of Revolution in 1821 which had as a result the creation of the new state of Greece in 1830. In nowadays Greece has approximately 420 museums; the majority of museums is archeological and contains exhibits from different phases of the Greek history. The Ministry of Culture is responsible for museum operation. Greek people are very proud of their Ancient History and museums are places where history can be displayed. Moreover, Universities like the Ionian in Greece and University of Oslo in Norway<sup>6</sup>, offer studies on Museology. In Greece, as well as in Norway, there are museums like Children's Museums<sup>7</sup>, which provide opportunities to children to fulfill their needs through their experiences (Zenetou 1996 cited in Glaser & Zenetou 1996).

## **1.3 Introduction to theories of the learning process**

There are many and different kind of learning theories; every theory approaches learning from a different dimension and they are all useful and important. According to Black (2005:129), learning is considered as “both a process and an outcome—the process is about how we learn, is explored below. The outcome is about what we gain

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<sup>5</sup><http://www.norskkulturrad.no/>

<sup>6</sup>As well as other four Universities which offer one-year scholarships or courses (Zenetou 1996 cited in Glaser & Zenetou 1996).

<sup>7</sup>Hellenic Children's Museum in Athens (<http://www.hcm.gr/>); Norsk Barnemuseum in Stavanger (<http://www.norskbarne.museum.no/>).

from learning–knowledge, and the great leap from gathering of knowledge to understanding it”.

Even though it is difficult to be investigated, learning has long term results. Therefore, learning is a process used as a short term means for long term impacts. Learning, according to Bruner (1960:48 quoted in Hooper-Greenhill 1994:144), “involves acquiring and absorbing new information, skills or experiences and making sense of these in relation to what is already known”. Hence, prior experience and experience are both significant in the learning process.

According to Kolb’s theory, experience is a major element for learning, along with the perception and the process. As Kolb (1984:38) argues, “learning is a process whereby knowledge is created through the transformation of experience”. Kolb is introducing the four stages of the learning process: concrete experience (*Do* and involve in the experience), reflective observation (*Observe* and describe the ideas and situations), abstract conceptualization (*Think* and use logic) and active experimentation (*Plan* and act practically) (Kolb 1984; Black 2005). Kolb (Black 2005) suggests that learning can be contributive through experiential learning and that it should be also taken into consideration the individual’s personal characteristics.

Thereafter it is a brief reference in some learning theories which have influenced in the late decades the perspectives of learning.

### ***1.3.1 Behaviorist theory***

The pedagogical theories which were formed during the 20<sup>th</sup> century argued that there are alternative ways in the perception of reality. More specifically, Behaviorism claimed that there are alternative ways of approaching the truth. Regardless of the type of knowledge, learning is based on teaching and corresponding of the child’s reactions (model of stimulus–response); behaviorism as a teaching method pointed out that every stimulus causes response, and if this response is positive, then it should be rewarded. Moreover, according to Behaviorism and its supporters, internal processes taking place during learning are not so important, as the changes in the individual’s behavior; (Ntoliopoulou 2000).

Nevertheless, as Ntoliopoulou continues (2000), behaviorism focuses both on the behavior of the individual and the role of the external conditions regarding the

perception of the world. Behaviorism emphasizes on individual learning, as well as teaching in small groups. Additionally, it is accented the role of motives and imitation which are more external than internal. Hence, motivation and imitation can be succeeded through positive reinforcements.

### ***1.3.2 Cognitive and constructivist theory***

Jean Piaget (Schunk 2004) considered development as a natural process based on cognitive stages. Children's thinking is developed through specific phases and stages<sup>8</sup> which are independent from the education; language, on the other hand, is an indicator for the change of thinking. Piaget (Alevriadou et al. 2008) argued that children construct knowledge gradually, through their own activities. Learning follows development and it is carried out with participation and self-construction. The educational theory of constructivism is based on Piaget's arguments; constructivism refers to the constructive way of acquiring knowledge and the constant adaption to the environment.

Moreover, constructivism emphasizes on the existing perceptions, ideas and representations of the learner. According to the constructivist view, cognition is a meaning-making process based on every experience of the individual. The structure of knowledge is, therefore, based on former experiences, cognitive structures, beliefs, etc., in order to interpret objects or facts.

Regarding constructivism, Hein<sup>9</sup> and Alexander (1998:35-36) argues that:

The constructivism quadrant postulates that learning requires active participation of the learner both in the way that the mind is employed and in the product of the activity – the knowledge that is acquired.

The specific model of learning attributes to the role of the child as an active learner. Meanings are not static, simple-making or decisive and they are responsible for the

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<sup>8</sup>More specifically and summarized, the stages of the child's cognitive development are: i) *sensorimotor* (birth to 2 years), ii) *preoperational or intuitive* (2 to 7 years), iii) *operational thinking* (7 to 11 years), and iv) *formal operational* (11 to adult), (Gardner 1991; Schunk 2004).

<sup>9</sup>George E. Hein is known for introducing the concept of the constructivist museum where knowledge is constructed and interpreted by the visitors in relation with the exhibits and their meaning; constructivist museum is focusing less to the objects and more to the visitor.

creation of interpretations. Children's participation, as Malaguzzi argued (Alevriadou et al. 2008) should be in focus; hereby, children can act autonomously in the meaning-making process based on their everyday experiences and through their intellectual actions which include design, coordination of concepts and deduction.

### ***1.3.3 Social-cultural theory***

Lev Vygotsky (Roopnarine & Johnson 2009) and other theorists introduced a social based theory of development which highlights the role of social-cultural factors in the perception of knowledge, the process of learning and the development of the individual; in addition, social-cultural theory underlines the significance of the interaction between the individual and the social environment. Learning includes both internal and external processes.

The interpersonal relationships are in the center of the learning process and are also collaborative. Language and thought are effective elements of the process as well as culture and social surroundings. Language contributes in the reflection of knowledge. The individual is enriching the society and the society enriches the individual (Schunk 2004).

Thus, Vygotsky (Schunk 2004) argued that social interaction contributes to the cognitive development through the implement of children's experiential representations. Moreover, an important factor in the child's development is the *zone of proximal development*<sup>10</sup>, as Vygotsky had argued (Dafermou et al. 2007; Roopnarine & Johnson 2009); the teacher can select the appropriate educational methods taking into consideration the child's zone of proximal development, and his previous representations, knowledge, interests, in order to achieve positive results in the learning process. The meaning of the zone of proximal development is not only related to a personal or common process; the learning environment inside the educational settings can be the zone of proximal development for children. Playing can create the possibilities for children to learn beyond the adults zones of control and

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<sup>10</sup>Vygotsky argues that the child can be taught only what it is capable of learning and introduced the theory of *the zone of proximal development*; the zone of proximal development is entitled with the distance between the real level of development of the child and the level of its potential development (Dafermou et al. 2007; Roopnarine & Johnson 2009).

develop their own zones whereby their activities (social, psychological or personal) are interactive (Alevriadou et al. 2008).

### ***1.3.4 Discovery learning***

Jerome Bruner (Whitebread 1996) supports learning through discovery and investigation where children participate in the learning process, and suggests the *spiral curriculum*<sup>11</sup>. Despite from the fact that Piaget's theory has inspired Bruner, he (Schunk 2004) disagrees with Piaget on the age limits of the development and he suggests that, with increasing the social interactions of the child, his/her cognitive development will also be expedited. Bruner<sup>12</sup> argues that there are three stages of cognitive processing: i) attention to information ii) encoding and retrieval, where automaticity can be an important factor of the process, and iii) metacognition, which develops gradually to children.

Ambrose and Paine (2006:47) claim that discovery learning represents the world through three models, “the enactive (where representation occurs through actions), the iconic (where representation involves building up a mental picture of things one has experienced) and the symbolic (where representation takes place through symbols)”.

A concept can be represented by each child with a unique and different way, depending on the how he/she has understood it; young children can learn anything by just teaching them in a language they understand. Thus, through discovery learning, children expand their knowledge, play and handle objects, investigate, edit stimuli and information, discover strategies that will help them “learn how to learn” (Alevriadou et al. 2008:18). The theory of discovery learning maintains that the teacher's role is to activate children in the learning process, find the appropriate method for each child according to his/her abilities and initiate him/her (Black 2005).

## **1.4 The importance of learning in the kindergarten**

Preschool institutions constitute a context where children become members of a small society for the first time and they compose their personal identities based on their

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<sup>11</sup>The spiral curriculum views that “anything can be taught to children of any age, provided it is presented in a way which is accessible to them”, so that it is understood in more symbolic or abstract way later in their adult life (Whitebread 1996:5).

<sup>12</sup>Ibid

contact with the others. Therefore, learning inside the preschool environment can be defined as a social activity based on the child's interpersonal relationship with the other children (Dafermou et al. 2007). Furthermore, Hein (2001:5) argues that "children are not born with the ability to interpret the world as their elders do. They have to learn the meaning of things and they do as gradually as they mature mentally and physically and gain experience". The significance of experiences is in the center of the preschool education.

The creation of groups in the kindergarten can contribute to the adoption of social behaviorist forms and promote ripening qualities such as self-motivation, initiative or creativity. Some of the basic principles of early childhood education are the holistic, harmonious and balanced development of mental and psychosomatic forces of children; in addition, education emphasizes on the development of children's creativity, critical thinking, as well as the building of friendship, cooperation and successful social integration (Dafermou et al. 2007).

In particular, any new knowledge is acquired by the child through his/her formed images or *schemata*; therefore, it is necessary to detect these schemata and enhance them with new knowledge. As every child has his/her own unique experiences, he/she has also different schemata and acquires knowledge in a different way. The teacher must create the appropriate circumstances to help the child obtain knowledge within his/her own former schemata (Sotto 1994).

#### ***1.4.1 Learning in the early years and the museum***

The fact that museums are leisure settings where visiting can be optional and occasional, has characterized their learning significance and potentials on a considerable level. Learning in the museum has also been referred as "meaningful learning"<sup>13</sup>, since visitors' prior knowledge is a part of the new experiences acquired in the museum environment, through different kind of activities.

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<sup>13</sup>"Meaningful learning implies that the new information, be it new facts, attitudes, or feelings, is linked to existing information in a learners knowledge structure in such a way that the learner is able to recall the information after extended periods of time and to apply these ideas to new situations or problems" (Falk & Dierking 1995:12).

The term of museum education is connected with the education *for* the museum and education *through* the museum (Hooper-Greenhill 1991). As Vemi (2006:14) claims, in order to achieve a successful connection between the school and the museum, it is necessary to find a “common language” between them. However, learning, as Falk and Dierking claimed (1992:99), “is strongly influenced by what we know and feel as well as by associated visual and tactile information”. Therefore, learning in the museum takes into account the former experiences and set them as a basis for the out-coming knowledge and development.

Whereas learning is a process that implies the co-existence of the individual with the others, Falk & Dierking (2000:38) argue that “learning, particularly in museums, is a fundamentally social experience”. Social relations are increased inside the museum, wherein children create groups, cooperate and interact socially, by gaining meaningful experiences. The communication between the visitor and the museum is based on the interaction among personal, social and natural factors (Falk & Dierking 1992). Thus, Dewey (Hein 2004) emphasized on the significant connection between the school and the opportunities for learning that are provided outside the school settings. The long-term learning outcomes of experiences in museums are affected by the contextual nature of learning and are related both to the individual and the circumstances within they occur.

### **1.5 Evolution of Preschool Education**

In the 18<sup>th</sup> century J.J. Rousseau introduced an educational program which aimed on the satisfactory of the child’s needs; therefore, then education was adjusted to age and started with exercising the child’s senses. During this period I.H. Pestalozzi<sup>14</sup> argued that the child’s education should not be obstructed by its social situation. The founder of Preschool Education and teaching methodology of infants is considered to be Frederic Froebel<sup>15</sup>, who established the first form of *Kindergarten*<sup>16</sup> in 1837 in Germany. Froebel was the first who designed an integrated system for preschool education and he introduced playing as a teaching method. Moreover, he suggested

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<sup>14</sup>(1746-1827), (Ntoliopoulou 2000)

<sup>15</sup>(1782-1837), Ibid

<sup>16</sup>The word *kindergarten* means in German *children’s garden* and many times it is mentioned also as infant or nursery school, (Ntoliopoulou 2000).

that children learn easier through their own activities and experiences, especially through playing. Froebel's ideas were quite popular in Germany and in many European countries as well (Ntoliopoulou 2000).

Decroly (Ntoliopoulou 2000:35-36) made another epistemological effort for the evolution of preschool education and established 'the school with life for life'<sup>17</sup>; additionally, the doctor and pedagogue Maria Montessori<sup>18</sup> from Italy claimed that knowledge is based on the child's views of the world and that the development of knowledge is followed by the education of the senses.

Additionally, in the 20<sup>th</sup> century, preschool education has been influenced enormously from different theories of learning like behaviorism, cognitive and social-cultural theory, constructivism, etc. (see also Chapters 1.3.1-1.3.4, pp.16-19); most recently (during the late two or three decades), new programs have appeared in the preschool education, like the Bank Street approach, the High/Scope and Kamii and DeVries models, the Reggio Emilia approach, Gardner's Multiple Intelligences theory, etc.

### ***1.5.1 The Norwegian Barnehage (Kindergarten)***

The first pre-primary institution, the *child asylum*, was founded in Trondheim in 1837<sup>19</sup>. The term *Barnehage*<sup>20</sup> is used for the school settings appropriate for children between the ages of one until the age of five (Lov av 17. Juni 2005 nr. 64 om barnehager). For the purpose of this study, the term *kindergarten* will be used when it is referred to the Norwegian Barnehage (kindergarten). The attendance to the kindergarten in Norway is not compulsory until the age of six years. The working personal in the kindergarten has the appropriate educational and administrative management knowledge (Lov av 17. Juni 2005 nr. 64 om barnehager); the

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<sup>17</sup>Decroly espoused observation as the beginning and development of mental acts and the method of "the whole" where all the acts, ideas, thoughts are entireties (Ntoliopoulou 2000).

<sup>18</sup>Montessori's method focuses on the sensory, kinetic, linguistic education, as well as the education of reading, writing and mathematics and it includes the use of many materials which aim on those purposes. On the other hand, the role of the teacher is to prepare the environment according the needs of the children, so that they will explore their surroundings inquisitively (Ntoliopoulou 2000).

<sup>19</sup>[http://eacea.ec.europa.eu/education/eurydice/documents/eurybase/eurybase\\_full\\_reports/NO\\_EN.pdf](http://eacea.ec.europa.eu/education/eurydice/documents/eurybase/eurybase_full_reports/NO_EN.pdf)

<sup>20</sup>The term *Barnehage* was firstly used in the first Kindergarten Act in 1975 to name all the institutions that are occupied with pre-primary education (Ibid).

kindergarten teacher has education as a 'førskolelærer' (preschool teacher) from a University college (Høgskole) or a University<sup>21</sup> which provides academic and educational practice. The pedagogical leader must have a preschool education which is also a minimum three years University college education or University (Lov av 17. Juni 2005 nr. 64 om barnehager). The duration of kindergarten education was 2 years until the early '80s, when an extra year was added (3 years) and it hasn't been changed since then. Usually the kindergartens belong to the municipality<sup>22</sup>, but they can also be private kindergartens, family, or open kindergartens which are all coeducational and approved by each municipality (Lov av 17. Juni 2005 nr. 64 om barnehager).

In the Norwegian kindergarten children are often divided in two groups according to their age; one group includes children between the age of one to three years old and the other group includes children between the age of three and six years old. Nevertheless, there are some kindergartens which include in the same group children from one to six years old. Every group has its own 'classroom base' as well as their responsible kindergarten teachers/pedagogical leaders and assistants. Every pedagogical leader is responsible for 14-18 children over the age of three and 9 children between the age of one year old to three years old. The normal opening hour for the Norwegian kindergarten is between 07.30 in the morning until 16.30-17.00 in the afternoon.

The Norwegian kindergartens used to fall under the jurisdiction of the Ministry of Child and Family Affairs whereas since 2005 the Ministry of Education and Research is responsible for their operation. The Act for kindergarten in 2005 replaced the previous acts of 1975 and 1995. The Framework Plan for the Content and Tasks of kindergartens (*Rammepplan*) was revised in 1<sup>st</sup> March 2006 and it has not changed since then<sup>23</sup>. The Framework Plan refers to the educational context of the Norwegian kindergarten and includes the specific fields in which the curriculum is focused.

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<sup>21</sup>Some university colleges have been changed into universities and in the next years will graduate the first kindergarten teachers from them.

<sup>22</sup>The municipalities are responsible for the kindergartens (for operation, buildings and maintenance, intake of pupils and the appointment of teachers).

<sup>23</sup>[http://eacea.ec.europa.eu/education/eurydice/documents/eurybase/eurybase\\_full\\_reports/NO\\_EN.pdf](http://eacea.ec.europa.eu/education/eurydice/documents/eurybase/eurybase_full_reports/NO_EN.pdf)

### 1.5.2 The Greek Νηπιαγωγείο (public Kindergarten)

Preschool education in Greece is institutionalized since the 19<sup>th</sup> century. The structure and operation of the Greek kindergarten (Νηπιαγωγείο)<sup>24</sup> is a part of the Primary Education and it was defined in 1985 with the framework Law of 1566/1985<sup>25</sup>. For the purpose of this study, the term *kindergarten* will be used when it is referred to the Greek public Νηπιαγωγείο (kindergarten). In the public Greek kindergarten can be employed kindergarten teachers with full time of 4 years university education or graduates from the former Pedagogical Academy. The Pedagogical Academy<sup>26</sup> studies were 2 years but in 1984 the education of kindergarten teachers<sup>27</sup> was reformed on the University level. The graduates of the former Pedagogical Academies had the opportunity<sup>28</sup> until the late years to attend a two years program at the Greek Universities (Departments of Preschool Education) in order to equalize their pedagogical diplomas with the University degrees.

The public Greek kindergarten<sup>29</sup> has two different options for attendance of the children: the first called *classic kindergarten* which is opened from 08.00 am until 12.30 pm and the second called *all day kindergarten*<sup>30</sup>, which is opened from 08.00 am until 16.00 pm. All day kindergarten was initially designed to meet the needs of the families that both of the parents were working in full time jobs, but nowadays it is available to every family, regardless of their working status. A classic kindergarten class has one kindergarten teacher responsible for a group of maximum 25 children, although it is possible to have 28 children, especially in kindergartens which belong in communities with high population. This number refers for both the classic kindergarten and the all day kindergarten. In some cases, a classic kindergarten class

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<sup>24</sup>The Greek Νηπιαγωγείο (Nipiagogeio) is under the authority of the Ministry of Education Life Long Learning and Religious Affairs, while the Child and Infant Centers belong to municipalities. Child and Infant Centers accept attendance of children between 6 months and 4 years, [http://eacea.ec.europa.eu/education/eurydice/documents/eurybase/eurybase\\_full\\_reports/EL\\_EN.pdf](http://eacea.ec.europa.eu/education/eurydice/documents/eurybase/eurybase_full_reports/EL_EN.pdf)

<sup>25</sup>[http://www.pi-schools.gr/preschool\\_education/nomothesia/1566\\_85.pdf](http://www.pi-schools.gr/preschool_education/nomothesia/1566_85.pdf)

<sup>26</sup> The last graduates leaved the Pedagogical Academies in 1988.

<sup>27</sup>In Greek is νηπιαγωγός

<sup>28</sup>Presidential Decree130/1990, <http://www.et.gr/>

<sup>29</sup>Φ.32/190/81670/Γ1, <http://www.et.gr/>

<sup>30</sup>The first all day kindergartens operated in the school year 1997/1998 (Law 2525/1997), ([http://eacea.ec.europa.eu/education/eurydice/documents/eurybase/eurybase\\_full\\_reports/EL\\_EN.pdf](http://eacea.ec.europa.eu/education/eurydice/documents/eurybase/eurybase_full_reports/EL_EN.pdf)).

cooperates with a reception class which is responsible for children with special educational needs. Reception classes are staffed with kindergarten teachers who are qualified in special educational needs. Each class of all day kindergarten is staffed with 2 kindergarten teachers who are attending an alternating working schedule of a morning or an afternoon shift. More specifically, the morning shift is between 08.00 am until 12.00 pm and the afternoon shift is from 11.45 am until 16.00 pm. The time between 11.45 am and 12.00 pm is available for the 2 kindergarten teachers to discuss the curriculum and cooperate at all levels. Additionally, there is the option of early time entry which is called *morning optional zone*<sup>31</sup> for the all day kindergartens, where they can be opened from 07.00 am; however, the attendance of at least 5 children in the age of 5 is demanded as a precondition for the morning optional zone to operate. Both kindergarten teachers are cooperating in order to follow a common curriculum which is structured according to the national curriculum for kindergarten education.

At Greek kindergarten they can attend those children who have filled their 4<sup>th</sup> and 5<sup>th</sup> year of age at 31<sup>st</sup> December of the registration year<sup>32</sup>. Moreover, since the school year 2007-2008, according to the article 73 of the Greek law 3518/2006<sup>33</sup>, the attendance at the Greek kindergarten of children who are filling their 5<sup>th</sup> year at 31<sup>st</sup> December of the registration year is compulsory. Additionally, in Greece, apart from the public kindergartens which are addressing to specific ages of children (between four and six years old), municipality and private kindergartens are also available. At the municipality kindergartens they can attend children from the age of one until five years old, whereas in some private kindergartens small children below the age of one year old can also be accepted.

The Greek Kindergarten Teacher's Guide<sup>34</sup> which was published in 2007 and it is in function since then, refers to fields of the curriculum for the kindergarten and adopts the interdisciplinary approach of knowledge; the methods which are suggested in the curriculum are enhancing collaborative, discovering and holistic learning. Moreover,

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<sup>31</sup>Φ.32/190/81670/Γ1/20-7-2007, Decree ΦΕΚ 1420/8-8-2007 τ. Β', <http://www.et.gr/>

<sup>32</sup> N.2327/95, ΦΕΚ 56 Α', <http://www.et.gr/>

<sup>33</sup> N. 3518/06, ΦΕΚ 272/06 τ. Α', <http://www.et.gr/>

<sup>34</sup>Dafermou et al. 2007

it is supported the gradual socialization of children in a physical, emotional, mental and social frame.

### **1.6 Earlier research**

Several studies have focused on museum's learning perspectives for children of different ages. In addition, many researchers have investigated teachers' perceptions regarding their museum uses, their views about learning in the museum and its connection with the specific fields of the school curriculum (mostly in school ages). In the late decades many studies (Harris Qualitative 1997; Piscitelli & Anderson 2000) have been conducted to determine how young children perceive and reinforce museum experiences.

A report from the European Commission (2009) about art and cultural education at schools in Europe refers to projects being held in Norway<sup>35</sup> and in Greece<sup>36</sup> (among several other European countries) which aimed at the development of cultural and art education in relation to their countries curriculum.

A survey among 200 Greek kindergarten teachers in 2004 (Zografou-Tsantaki 2004) about their views regarding the exploitation of museum in preschool education indicated that almost half of the participants approached museum mostly by visits. Moreover, the research revealed that kindergarten teachers in Greece "emit a satisfactory positive atmosphere for the museum and its exhibits" (Zografou-Tsantaki 2004:7). In particular, Greek kindergarten teachers believed that both the objectives of the curriculum and the response to the contact between the museum and the school audience are some of the reasons for museum visitations with their kindergarten children.

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<sup>35</sup>Norway has integrated a school program called *Cultural Rucksack* since 2008, according to which, an art related educational project emphasizes on the collaboration between schools and various art-forms in local settings.

<sup>36</sup>The program '*Melina :education and culture in primary schools*' was carried out during the period 1994-2004, aiming on the use of teaching methods which encourage the content of art curricula including theatre, visual arts, contemporary dance, music, photography and literature. This program helped, in a satisfactory extent, the connection between museum and school. In the specific program participated also many public kindergartens (European Commission 2009).

Furthermore, in the study conducted by Griffin and Symington (1997) about field trip learning, it was revealed that half of the interviewed teachers connected the trips with the school curriculum. In particular, other surveys (Kisiel 2003; Tal et al. 2005) indicated clearly that teachers considered museums as important learning settings and they tried to create learning experiences for their students during museum visits; nevertheless, the perspectives of these experiences depended also on the teacher's personal meanings regarding learning in informal settings.

Furthermore, another research by Anderson and Zhang (2003) in Vancouver, Canada among teachers of the 7<sup>th</sup> grade, cited evidence that some of the issues which teachers considered while making visiting plans at museums were: curriculum fit, perceived value of experience, entry costs, amount of enjoyment and, transportation cost.

According to Mackety (2003), who made a survey among 130 elementary school teachers, cost and transportation were the factors which influenced their visiting decisions. Furthermore, the specific survey illustrated that teachers prefer to combine more their museum visit with some specific subjects of the curriculum themes and topics like Technology, Earth and Space Science, Life Science, Social Science. Finally, teachers categorized the students' museum experiences concerning their perspectives as: equally fun and educational, apply on the everyday life learning, vary in learning styles, integrate hands-on activities, and apply on critical thinking skills.

In particular, a study made by the University of Leicester<sup>37</sup> in England (2006) revealed that some of teacher's expectations about learning outcomes for children from museum uses were: increase or change in knowledge and understanding (95 %), enjoyment, inspiration and creativity (94 %), change or development in attitudes and values (92 %), increase in skills (89 %) and action, behaviour and progression (81 %) on a 'very important' or 'important' extent. In addition, Hooper-Greenhill<sup>38</sup> has

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<sup>37</sup> For similar research see, Museums, Libraries and Archives Council (2006),

<http://www.le.ac.uk/ms/research/Reports/What%20amazed%20me%20most%20at%20the%20museum%20today.pdf>,

<http://www.le.ac.uk/ms/research/Reports/The%20most%20interesting%20thing%20at%20the%20museum%20today%20was.pdf>.

<sup>38</sup> Hooper-Greenhill's research was based on piloted programs throughout United Kingdom, like *Inspiring for All* and *Renaissance in the Regions*, and was funded by the British Government (Hooper-Greenhill 2007).

investigated the educational role of the museum and has emphasized on a constructivist theory of learning inside the museum and its hermeneutic perspectives (Hooper-Greenhill 1994, 2007; Insulander 2005). According to the research, teachers link museum visits mostly with the subject of History from their National Curriculum (51 %), while Science and Technology is at the second place (26 %) and Art at the third (18 %). In general, the results from these pilot surveys revealed a positive approach and enthusiasm for museums of the participating teachers (Hooper-Greenhill 2007).

In Norway, many reports<sup>39</sup> about children's meanings regarding museums (Frøyland & Håberg 2007; Frøyland, Håberg & Brekke 2008) report that children from elementary and high schools had raised their interest about what to expect from their museum visits concerning their acquired knowledge and experiences. Moreover, it should be noticed that in 2006 more than 900 000 Norwegian students attended educational programs in museums (Frøyland & Langholm 2009). Also, projects like *Prosjekt L97 og Museene*<sup>40</sup> in primary schools in different areas of Norway revealed that there was a potential cooperation between school and museums and in relation to their school curriculum.

The learning impacts of museum experience on young children (between 4 and 7 years old) were investigated by several studies (Kopran et al. 1997; Anderson et al. 2002; Tenenbaum et al. 2004). Concerning the effectiveness of a combined museum and classroom project on science, it was indicated that children were supported on their science literacy after participated on an integrated program and acquired new skills in regards to their enjoyment and perception of cultural meanings.

Moreover, Piscitelli and Anderson (2000) studied young children's learning perspectives in museum settings. According to this study, which concerned preschool and lower primary children's visits at different museum settings, the outcomes of

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<sup>39</sup>The reports are parts of research made by students in Museum's Communication Studies in Oslo University College.

<sup>40</sup>'*Prosjekt L97 og museene*' took place during the period 1998-1999 and it was investigated how knowledge and competence in museums can be connected to the school curriculum, according to children's age (Austbø 2000).

these experiences were positive and related to both enjoyment and learning opportunities.

Finally, Andrea Weltzl-Fairchild (1995 cited in Hooper-Greenhill 1995) and Insulander (2005) cited evidence about school children's response to aesthetic experiences in art museums and came to the conclusion that aesthetic experiences increase with the age and the level of development. They also highlighted the role of the museum educator in children's positive response to the aesthetic experiences.

### **1.7 The use of terms in the current research**

For the purposes of the current research and taking in consideration the differentiation of the term *Barnehage* and *Νηπιαγωγείο*, the term *kindergarten* will be used to determine both the Norwegian and Greek kindergarten/preschool education setting according to the clarification illustrated previously (see Chapter 1.5.1 and 1.5.2). Moreover, the same is done to determine kindergarten teachers from Norway (*førskolelærer*) and Greece (*νηπιαγωγός*). The term *kindergarten teacher* is used during this study to represent both educated Norwegian (*førskolelærer*) and Greek (*νηπιαγωγός*) teachers working in kindergartens in Norway and Greece (according to the explanations given in Chapters 1.5.1 and 1.5.2 previously). More specifically, the kindergarten teacher will be addressed as *she*, as the majority of kindergarten teachers are women and for facilitation of the study; additionally, the child will be addressed as *he*. Also, the term *Greek curriculum for the kindergarten* refers to the Kindergarten Teacher's Guide (Dafermou et al. 2007) and the term *Norwegian curriculum for the kindergarten* addresses to the Framework Plan for the Content and Tasks of kindergartens (Rammeplan 2006).

Especially, for this research, the term *museum*<sup>41</sup> is used as a collective term for museums, science centers, aquaria and other similar informal educational settings in

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<sup>41</sup> According to ICOM, as museums are qualify the following:

- i. natural, archaeological and ethnographic monuments and sites and historical monuments and sites of a museum nature that acquire, conserve and communicate material evidence of people and their environment;
- ii. institutions holding collections of and displaying live specimens of plants and animals, such as botanical and zoological gardens, aquaria and vivaria;
- iii. science centres and planetaria;

both countries and the term of *museum education* refers to learning perspectives inside the museum, according to the definitions given previously (see Chapter 1.2.1); finally, the term *educator* refers to the responsible person of the design and implementation of the educational program in a museum and will be addressed as *he*.

Lastly, the age of the kindergarten children which will study will address to is the age between three and six years old, taken into consideration the Norwegian and Greek kindergarten operation system (see pp.24-28 in this Chapter).

### **1.2.8 The purpose of the study**

The author of this study was interested in examining Greek and Norwegian kindergarten teachers' concepts regarding the role of the museum as a learning arena for the kindergarten. More specifically, her interest was focused on any possible similarity or differentiation of the concepts between the kindergarten teachers of these two countries.

Additionally, one of the main purposes of the present study is to investigate kindergarten teachers' concepts about the connection between the museum and the kindergarten curriculum and the actual policy in practice related to museum uses within the national curricula; moreover, this study is interested on kindergarten teachers' attitudes towards the educational possibilities in the frame of a museum visit and the perspectives which characterize its connection with the kindergarten.

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- iv. non-profit art exhibition galleries;
  - v. nature reserves, conservation institutes and exhibitions galleries permanently maintained by libraries and archives centres; natural parks;
  - vi. international and national regional or local museum as per the definition given under this article;
  - vii. non-profit institutions or organizations undertaking conservation research, education, training, documentation and other activities relating to museum and Museology;
  - viii. cultural centres and other entities that facilitate the preservation, continuation and management of tangible or intangible heritage resources (living heritage and digital creative activity);
  - ix. such other institutions as the Executive Council, after seeking the advice of the Advisory Committee, considers as having some or all of the characteristics of a museum, or as supporting museums and professional museum personnel through museological research, education or training, [http://archives.icom.museum/hist\\_def\\_eng.html](http://archives.icom.museum/hist_def_eng.html).

Especially, it will be investigated the effect of former training or acquired previously knowledge related to museum education on enhancing educational programs connected with the kindergarten curriculum and whether there is any difference or similarity between the two groups. Moreover, it will be examined the connection of those programs/projects with the fields of the Norwegian and Greek National Curriculum for kindergarten. Furthermore, there will be investigated the reasons why the kindergarten teachers do not visit museums frequently or not attend educational programs in museums along with their pupils and whether there is any differentiation in the reasons between the two countries. An examination of the kindergarten teachers' awareness regarding the offered programs from the museums of their local society will be additionally examined.

Consequently, this study will address the following research questions:

- 1) What sort of conceptions relating to museum education do kindergarten teachers in Norway and in Greece construct?
- 2) In what degree does museum education contribute to the aims of the National Curriculum for kindergarten in Norway and in Greece?
- 3) Is there a differentiation of conceptions about museum education between those teachers in Norway and in Greece who have carried out projects inside the museum and those who have not?
- 4) Is there any relation between kindergarten teachers' acquired knowledge related to museum education, museum uses and teachers designing and carrying out programs for their kindergarten children inside the museum?

Finally, this study will provide examples of two museum educational programs, one carried out in a museum in Oslo, Norway and one carried out in Athens, Greece; additionally, an example of an organized museum visit of a kindergarten group in Tromsø, Norway will be displayed, in order to examine how a kindergarten teacher is using the museum in practice for the purposes of the kindergarten's curriculum. These programs will not be evaluated, but it will be examined their possible relation to the theoretical perspectives of learning in the museum.

## CHAPTER TWO – REVIEW OF THE LITERATURE

### 2.1 Introduction to the theoretical frameworks of museum education

In the late years, museum's educational perspectives have been influenced by different approaches and theories like Constructivism and Multiple Intelligences theory. Interaction between individuals and the social environment, like the museum, is essential and connected with the everyday life, the creation of motivations and experiments. Museum education has a multidimensional role, as Hooper-Greenhill notes (2006 cited in Genoways 2006); inside the museum, children have plenty opportunities to act, feel and experience; their prior knowledge is enriched by new information, new structures and new meanings.

The epistemological approaches of learning, related both to kindergarten and museum, provide the kindergarten teacher advantages in the choice of teaching methods; therefore, they contain useful elements (like observations, actions, interpretations, experience, problem solving, etc.) for framing the curriculum for the kindergarten. The combination of teaching methods and strategies is an important component for educational programs implemented inside the museums which are related to the ways that children learn, according to their age.

However, until recent years, museum educational programs have been theorized by didactic or stimulus-response approaches, where knowledge is considered as an incremental collection of information and events; additionally, exhibitions were exposed as a hierarchical arrangement of specific learning objectives. In the late years, constructivism, discovery and experiential education have a power influence on museum education whereas learning is considered as a process of selection and organization of cultural and social experiences (Hein & Alexander 1998). Therefore, Gardner (Hein 1995) highlights the constructivist museum and suggests the museum as an educational setting suitable for different learning perspectives.

Thus, constructivist approaches argue that active participation provides multiple learning opportunities for children; in the museum, this is accomplished by the interactive activities and exhibits; *interactive* are these experiences which activate children in a physical, intellectual, emotional and social level (Mousouri 2002).

### ***2.1.1 Constructivism, social-cultural theory and learning in the museum***

Constructivism is a *pragmatic theory* which proposes both the importance of the process of learning and the content of new knowledge. Specifically, representatives of constructivism are cognitive theoreticians like Bruner and Piaget, and social constructivists like Vygotsky. According to the constructivist theory, the role of the individual is essential and centred in the process of learning; the individual participates actively in the seeking of truth and knowledge, based on its own structures, which differ from the others' (Hein 1998).

Schunk (2004) argues that constructivist theories don't assume that everything is true but they introduce discovery and verification as the results of a reasonable doubt; therefore, truth varies and the individual must obtain knowledge with its own active way, through the extraction of meaning from the information. According to Black (2005:140), "constructivism represents Idealist approach to the concept of the development of knowledge"; earlier experiences influence knowledge which is perceived individually through the cognitive constructions or inventions of the social and physical environment (Hein 1998).

The cognitive psychologist Jean Piaget (Schunk 2004) introduced the concept of constructivism, according to which the child actively constructs knowledge through continuous assimilation and accommodation of new information. Particularly, the child has an active role in learning, which is considered as a natural process. Furthermore, the cognitive structures (schemas) that the child had already formed, adjust to new knowledge, as he firstly learns to create the appropriate cognitive structures. According to Piaget (Caulton 1998:18), "children learn from actions rather than passive observations, and, so construct knowledge and understanding for themselves"; therefore, the teacher guides them to discover knowledge independently.

In particular, Piaget (Noodings 2007) claimed that cognitive structures (representations, figures, concepts) are essential elements in the learning process and they help the child to understand and respond to natural experiences. Additionally, interaction is a cognitive mechanism of constructing knowledge with dialectical and

experiential extensions. Moreover, Loris Malaguzzi<sup>42</sup> (Edwards, Gardini & Forman 1998) emphasized also on the active participation of the children and claimed that they are autonomously capable to make meaning from the experiences of their everyday life through mental action, which includes design, coordination and removal of ideas.

Additionally, the Piagetian theory (Roopnarine & Johnson 2009) claims that the development of children's cognitive schemata is implicated by the process of assimilating cognitive structures. Many museums and science centers have been influenced by Piaget's theory of development. Piaget<sup>43</sup> suggested that learning can be accomplished through active exchange between the individual and the environment; this argument is taken into account in the designing and implementation of many museums exhibitions. Jensen (1994 cited in Hooper-Greenhill 1994) claims that the engagement of all the senses and skills participate in the exploration of concrete and abstract ideas. Consequently, learning inside the museum is a process of acquisition of knowledge, developed in the framework of intercommunication and social determination, since the individuals interact through their personal senses with the other members of their social groups.

Piaget (1973) also claimed that learning is potential inside an environment of fun and challenge; learning, therefore, is based on the development of children's learning abilities like interest, initiative, experimentation, exploration, playing and fantasy. The role of playing is a very important factor as it can combine fantasy, inspiration and spontaneity and contribute towards the individual exploration of the world. Therefore, Science and Children's Museums rely mostly on children's need for playing, creativity and discovery in order to provide them opportunities to act interactively with the objects.

In particular, museums are settings for informal learning opportunities, since they combine active learning and personal meaning-making. Piscitelli and Anderson

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<sup>42</sup>Loris Malaguzzi was a teacher that coordinated the centers of preschool education of Reggio Emilia in Italy. The main idea of the Reggio Emilia approach is based on the active participation of the child in the construction of knowledge which is structured through the relation between the child and its environment (Edwards, Gardini & Forman 1998; Dafermou et.al 2007).

<sup>43</sup>Ibid

(2000) claim that the individual's knowledge is changing constantly as the prior experiences are enriched by new, successive and interpreted. The role of the social context is essential for the expanding of experiences, therefore, learning is an outcome "that encompasses several dimensions, including social-cultural, cognitive, aesthetic, motivational and collaborative"<sup>44</sup>.

Vygotsky (Dafermou et al. 2007) emphasised on the importance of *the social game* that occurs among children; its main characteristics are imaginary situation and the rules which children set. Therefore, playing is in the center of the kindergarten's operation, since many of the kindergarten's framework aims can be accomplished through playing.

Vygotsky's theory (Padro 2004) is particularly important for museum education as it takes advantage of the educational nature of experiential learning; moreover, social constructivism takes into consideration the way that the world is being described or defined and highlights the significance of the language, as well with the social and cultural environment of the individual.

Nevertheless, while Piaget's constructivist perspectives (Tenenbaum et al. 2004) focuses on the special role of interaction between the child and the objects, Vygotsky's<sup>45</sup> social-cultural perspectives, on the other hand, focus on the child's social and apprentice mediation, which will participate in the construction of knowledge.

Lastly, Vygotsky, Bruner, and Piaget's argumentations on learning approach the perspectives of museum education since, inside museum settings, is facilitated the active participation of children and is in focus the interactive dimension of the learning process.

### ***2.1.2 Multiple Intelligences theory and the museum***

Howard Gardner has formulated the theory of *Multiple Intelligences*, which proposes a spectrum of eight types of abilities. The theory of Multiple Intelligences was publicized for the first time in 1983 in his book *Frames of Mind* (Gardner 1985;

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<sup>44</sup> Ibid, 4

<sup>45</sup> Ibid

Gardner 2006). According to Gardner's theory, humans have neither the same interests or skills nor the same way of learning, but they understand the world with at least eight different but equally important ways; these ways of understanding the world are referred by Gardner as Multiple Intelligences (Gardner 1985; Gardner 2006; Ntoliopoulou 2001).

Gardner (Gardner 2006; Kakourou-Xroni 2010) supports experiential learning in the museum and its connection with learning in formal educational settings like schools and kindergartens. Additionally, Gardner's<sup>46</sup> approach suggests a more pluralistic and democratic meaning in education, as learning and perceiving of the world occurs through a different operation for each child; each type of intelligences can be distinguished differently for each child and on a different extent.

Particularly, the eight intelligences are:

- *Linguistic*: the ability to effectively use oral and written language.
- *Logical-mathematical*: the ability to use numbers effectively and think logically.
- *Musical*: the ability associated with the creation of rhythms and songs and recognition of pulse beat and vibrations.
- *Bodily-kinesthetic*: the ability to use the entire body and the skill to express ideas and emotions, and ease of using our hands to create or transform objects.
- *Interpersonal*: the ability to perceive and distinguish moods and intentions, motivations and feelings of other people.
- *Intrapersonal*: the ability to treat adaptive, based on knowledge of us.
- *Spatial*: it is the ability to perceive the space with precision and the shape accurately.
- *Naturalistic*: the ability to distinguish living organisms and sensitivity to other features of the natural world (Gardner 1985; Gardner 2006).

The theory of Multiple Intelligences can be an appropriate framework for organizing and accomplishing multiple learning experiences in all kind of learning situations. Gardner (Frøyland 2003) recommends that education should ensure the understanding of different worlds (the natural world, the biological world, the world of human

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<sup>46</sup> Ibid

materials and the world of self). Therefore, museums are suitable settings for learning since they are places offering children opportunities for expanding their abilities and skills.

Gardner (Caulton 1998:20) has also highlighted the significant role of interactive museums, as inside these informal learning environments, “the rich of variety of interpretative techniques can stimulate a multiplicity of intelligences”. Thus, Gardner’s theory contributes enormously to museum’s communicative perspectives, and it can be related to different skills and abilities of the individuals. However, Hooper-Greenhill (1994) has argued that children with difficulties (learning, concentration, etc.) can show a remarkable improvement after participating in programs inside the museum settings, since there they have more opportunities to use their multiple intelligences than they do inside their normal educational environment.

However, Gardner (2006) argues that intelligence like the linguistic and logical-mathematical, are more in center inside the educational systems while others are neglected. Moreover, in Gardner’s theory, education focuses on the child, as the experiential approach of learning in the Reggio Emilia’s preschool centres. The early recognition of children’s skills and weaknesses is equally important. Therefore, children have various opportunities to interact to multiple stimuli, exercise and improve their multiple intelligences both inside the kindergarten and the museums. Kindergarten teachers can observe their children’s attitudes and notice their interests or abilities in certain activities; with the evaluation of the activities held either inside the kindergarten or inside the museum, teachers can help children through their learning process in order to reinforce all the types of their intelligences (Hein 1998; Ntoliopoulou 2001).

### ***2.1.3 Experiential learning, learning-by-doing in the museum***

John Dewey (Noddings 2007) is a *naturalistic* philosopher who claimed that senses are associated with the explanations of natural phenomena. The prior experiences of children have a significant role in their intellectual development since they affect the new interpretations and metaphors. Being a pragmatist and naturalist, Dewey<sup>47</sup> used the hermetic way of explaining phenomena and claimed that “knowledge is bigger

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<sup>47</sup>Ibid 33

than the truth”; thus, children obtain knowledge by interpreting information and seeking for the meaning through new meaning-making with their skills. The hermeneutic perspective engages analysis and interpretation with dialectic and pluralistic means.

Discovery learning proposes the idea that learning is an active process where the participants interact with the objects used for the purposes of learning; consequently, their way of thinking is actually changing through this specific process of learning. Therefore, learning is more than the assimilation of knowledge and expands on the need for more information (Hein 1998). According to Dewey (Nikonanou 2010), the development of the child’s creative abilities and autonomous thinking are based on the experiences; the practical side of learning is involved with the theoretical, as one complements the other.

Dewey (Hein 2004:418) illustrated the relation between “museums to life experiences in education”. Moreover, he highlighted the museum experience as an active learning opportunity and claimed that museums should be “an integral part of any educational setting”<sup>48</sup>. Thus, as Hein<sup>49</sup> continues, it is necessary to expand and integrate prior experiences and claimed that “the educative value of experience should be judged by its capacity to enable the learner to have future (educative) experiences”.

Particularly, Dewey (Dewey 1900: 89 quoted in Hein 2004:418) argued that

[The school] is a living union of thought and the instrument of expression. This union is symbolized by saying that in the ideal school the art work might be considered to be that of the shops, passed through the alembic of library and museum into action gain.

Additionally, according to Dewey’s views regarding formal and informal education, Ansbacher (1998:37) notes that the relation between them is clarified more as a “within vs. without” process; therefore, visitors/children’s experiences inside the museum occur interactively. Dewey (1963) also argued that pragmatism is a theory of meaning and he emphasized on the naturalistic explanation of the world and defied it as pragmatic naturalism.

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<sup>48</sup>Ibid 419

<sup>49</sup>Ibid 424

However, Dewey (Hein 1998) believed that all experiences can be educative (especially those which cause stimuli), even though they might intensively not be; it is important that these experiences provide opportunities for expanding, improving former knowledge and creating new meanings. As learning in the museum includes interaction with the surrounding environment, it is an active process which is constant and accepts transformations or new interpretations.

Learning in the museum, therefore, is perceived as a process where the visitor/child is participating actively through his direct contact with the objects; hence, children can use all their senses while interacting with the museum exhibits through different educational activities like role playing, investigating, analysing, etc. (Hein 1998). Nevertheless, Dewey<sup>50</sup> claimed that every new experience, based on the former, is enhancing learning. Empirical learning is exploiting the direct contact with the objects and personal discovery. The teacher is using the objects in the way that they can stimulate children to act.

In particular, Dewey (Barrow & Woods 1995:135) argued that

first any experience which the children were to have must have an immediate appeal to them (in Dewey's terminology, 'interaction'), but secondly it must also have a propensity for learning on to further experiences that would provide interaction.

Lastly, children engage in the process of transformation of their previous emotions, attitudes, skills and knowledge through experiential learning activities, since they interpret meanings with the acquisition of new information and redefine their identities (Hooper-Greenhill 2006 cited in Genoways 2006).

## **2.2 Curriculum Studies and the museum**

The nature of the educational programs inside museums is akin to the philosophy of the Curriculum Studies, which promotes the interdisciplinary approaches and concepts regarding the holistic perception of knowledge. Curriculum Studies emphasize both on learning through the real objects and the use of primary sources, as well as on the active seek of learning.

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<sup>50</sup> Ibid

The skills that children need to acquire are related both to communication<sup>51</sup> and the effective use of concepts in everyday life; the use of a variety of sources and information tools, cooperation with others in groups, ability to act critically to information, values and assumptions, problem solving and meta-cognitive skills are necessary for the development of children's abilities. Surveys have revealed that children's learning possibilities outside the formal school/ kindergarten settings can develop competence in all school/kindergarten related practices (Korpan et al. 1997)<sup>52</sup>.

Museum education focuses primarily on techniques and practices, in contrast with New Museology which addresses more to the moral and political sites of practice. Curriculum Studies refer both to the political and technical aspects of the teaching methods (Lindauer 2003). Curriculum Studies apply on museum education since they refer to informal ways of learning. As Rose (2006:82) argues "curriculum theory is an interdisciplinary study of educational experiences concerned with examining the choices and actions used to design formal and informal learning events". Curriculum Studies are considered as a postmodern theory which highlights culture as a significant perspective of the learning process (Lindauer 2003).

Therefore, museum education and Curriculum Studies are two settings which cooperate on the design of educational programs in museums; museum educators inquire some of the following necessary intersections in approaching analytically the programs and the participants: knowledge production, adherence to a democratic ideal, the art and act of choosing, curriculum as text and ethics of interpretation (Rose 2006). Curriculum Studies impact on the design, implementation and evaluation of school/kindergarten programs and they should be in relation to a specific theory, the educational practice and the cultural environment of the specific educational setting.

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<sup>51</sup>"According to the information perspective, any process of communication involves the transmission of messages, or information, from the sender to the receiver" (Silverman 1999:9).

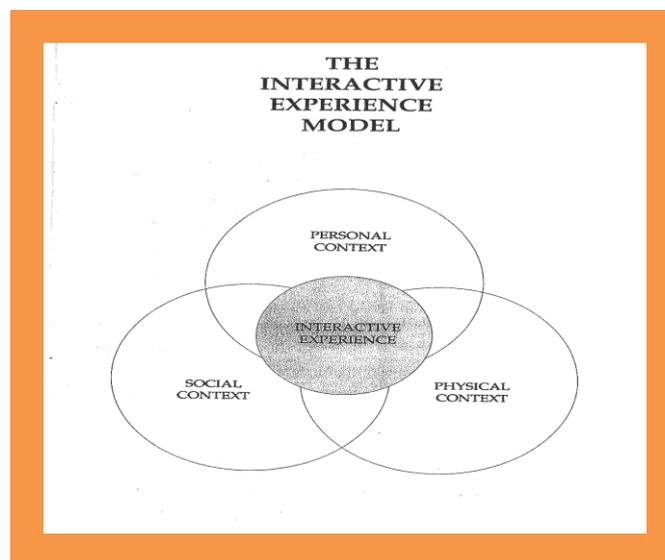
<sup>52</sup>The specific research of Korpan et al. (1997) showed that 66% of the participant children had visited a science center or museum two or three times a year; additionally, it revealed that teachers expected that children had already participated in a learning experience in a museum, science or technology related to environment before they began in school.

### 2.3 Museum: Just an experience, or something more?

Falk and Dierking (1992; Jeffery-Clay 1998) have introduced the Interactive Experience Model<sup>53</sup> (see Figure 2.1) as a framework for museum education. As this model illustrates, people interact with the museum according to their personal, social and physical context. More specifically, personal context refers to the individual characteristics of every visitor, social refers to the social perspectives during the visit and, finally, physical refers to the museum environment/setting. These contexts affect the visitor's museum experience, and all three interact with each other in order to help the visitor to create an "effective environment for meaningful, constructive learning" (Jeffery-Clay 1998:6).

Furthermore, as Falk and Dierking (Hooper-Greenhill 2007:39) continue, "learning processes consist of pulling together previously unconnected facts and experience, such that a new and meaningful pattern is constructed". The personal context of the Interactive Experience Model of Falk and Dierking can be combined with Gardner's theory of Multiple Intelligences (see Chapter 2.1.2, pp. 35-37).

**Figure 2.1:** *The Interactive Experience Model* (Falk and Dierking 1992:5)



Additionally, the social dimension of museum experience is related also to the communicative perspectives of the visitor/child with the others (children, educators, kindergarten teachers). The meaning of the term *experience* refers more to the

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<sup>53</sup>This framework is referred as "contextual model of learning" and provides a means of "organizing information about learning from objects and experience" (Dierking 2002 cited in Paris 2002:3 and 7).

emotion than the mental approach of reality and rationality. Experiences, as they are personal, are based on the impressions of senses, the conscious perception of personal feelings and emotional conditions; therefore, not every experience has an educational context. Moreover, since museum experiences can be characterized by both their entertainment and learning perspectives, they can also provide opportunities of holistic and self-directed learning, like experiential learning (Nikonanou 2010:85-86).

Thus, the process during an educational program in a museum or during a visit is distinguished by the “reflection on the experience” (Black 2005:141). Reflection refers actually to the creation of new meanings from the experiences in the museum and to the interaction with the exhibits.

#### **2.4 The museum as an informal learning environment**

Museum education has the privilege to be considered as a part of non-formal education. Nonformal learning is more available for interactive activities, in contrast with learning in formal setting which is limited by the school program (subjects, timetable, curriculum, etc.). As formal learning can be defined any organized educational activity which is addressed to specific learners and has concrete aims. Although museum education takes into account the school program, it isn't totally bounded on it; it provides opportunities for both cognitive and emotional objectives (Sotto 1994). Therefore, learning outside the school/kindergarten settings focuses on “shared cognition, tool manipulation, contextualized reasoning, and situation-specific competencies in contrast to individual cognition, pure mentation, symbol manipulation, and generalized learning in school” (Paris & Hapgood 2002 cited in Paris 2002:40).

As Taylor and Neill (2008:24) claim, “nonformal education typically is seen as somewhat participatory, flexible, less standardized, and more responsive to local interest”. Moreover, as Livingstone (2006 cited in Bekerman et al. 2006) continues, “informal learning is an activity involving the pursuit of understanding, knowledge, or skill that occurs without the presence of externally imposed curriculum criteria”. Therefore, museum is used as an informal learning setting, where the participants have an active role, and where the program can be flexible and orientated by the interests and characteristics of the age of each school/kindergarten group. Museum

education has a nonformal character through the designed learning activities which are carried out inside or outside the museum.

During a nonformal educational practice, the interest focuses more on the experiential nature of learning, which includes emotions, surprise, exploration for answers (both individually and collectively), as well as entertainment, enjoyment and satisfaction. Additionally, empirical surveys have indicated that participation in informal learning activities produced successful learning outcomes (Livingstone 2006 cited in Bekerman et al. 2006). Thus, nonformal learning is able to provide a more personalized educational practice based on constructivist views and free choices and, by limited the rigid structures of formal education.

However, as Hein (1998:7) claims “both formal and informal settings (i.e. both schools and museums) can be places where learning is facilitated through the use of objects, the opportunities to learn are based on the learners’ interest, education includes discovery and/or construction of meaning...”. Consequently, those settings focus on active-learning and are considered educational institutions.

Museums, nevertheless, could be considered as “semi-formal learning setting”, according to Insulander (2008:3), since they have characteristics of both formal and informal learning environments; the presence or absence of a curriculum based program doesn’t affect the fact that the museum environment (including the exhibits or activities) is regulated by the visitors’ participation.

## **2.5 Visual Literacy and Aesthetic Experience**

Images have a dominative role in the modern world. The term *visual literacy*<sup>54</sup> refers to the familiarity of the individual with the images and the visual world. Visual literacy is a prerequisite for the understanding of the images of the real world, in order to “to find meaning in imagery” (Yenawine 1997:845 cited in Flood, Heath & Lapp 1997). Children can improve their cognitive skills with their *visual*<sup>55</sup> training; this

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<sup>54</sup>The term literacy refers to the level of access to written information which is necessary for the effective function of the individual in the society. Apart from visual literacy, in the modern society, the individual needs to develop its scientific, numeracy, or information literacy in order to understand and produce diversely texts, connected with the use of multimedia (Dafermou et al. 2007).

<sup>55</sup>Visual Education provides the contact with the visual arts and the understanding of images (Messaris 1994).

training can be activated with a museum visit (in an Art Gallery for example). As Yenawine (1997 cited in Flood, Heath & Lapp 1997) argues, the extent of the individual's literacy depends, and is determined, by its ability to recognize, *read*, analyze and reclaim miscellany kinds of images and expressing means. Moreover, Yenawine<sup>56</sup> continues that children, through the visual literacy, *learn to notice* as they *learn to read* in the formal learning settings. Furthermore, according to many developmentalists and constructivists (as Piaget, Vygotsky and Bruner, see Chapters 2.1.1, pp. 35-37), activity is necessary in the learning process and the development of the aesthetic thought; the learner *reads* images in order to construct and structure actively interactions with art (Yenawine 2002).

Additionally, the awareness of the means that the images use to convey messages could become the beginning of cultivation of aesthetic appreciation. Visual literacy includes aesthetic understanding, while meaning is created through the decoding of symbols. These symbols are connected with the ideas or words for the practical use of visual literacy and usability of aesthetic experience. Thus, children learn to observe and interpret objects, art crafts and exhibits, in order to think critically<sup>57</sup>.

Aesthetic theories examine experiences from their affective, creative, enjoyable and emotional perspectives, since children respond to activities with their sensory, imagination, enhancement of awareness of the images and, reflection of their meanings (Piscitelli & Weier 2002 cited in Paris 2002).

Furthermore, aesthetic understanding, according to Yenawine (2002), is a process of making sense of an aesthetic response, through perceptions, thoughts and emotions which are stimulated both by the objects and the environment. This procedure is characterized by five aesthetic development stages<sup>58</sup>. Aesthetic understanding is an

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<sup>56</sup> Ibid

<sup>57</sup> Most of art museum programs focus on the development of critical-thinking skills of their school groups (Luke et al. 2007).

<sup>58</sup> Stage I: Accountive Stage which includes concrete observations, Stage II: Constructive Stage where people use their knowledge and perceptions about the world, Stage III: Classifying Stage which concerns the analysis, Stage IV: Interpretive Stage which responds to the decoding of symbols, and, Stage V: Re-Creative Stage which refers to the reflection of the art work on the viewer (Housen 2007; Kakourou-Xroni 2010).

essential element of children's development since it provides the participants a strategy for visual thinking<sup>59</sup> and fosters their understanding through the aesthetic stages; therefore, participants (which can be from any age group, included kindergarten children) can create strategies and ways of understanding art. Educational programs in museums, especially in art museums/galleries, focus on the visual literacy of children.

## **2.6 Object-based learning**

The significance of museum settings and objects is connected with the interpreting frame of every museum; additionally, it is regenerated daily by the complex interactive and interpretive relations between persons and groups. Object-based learning has multiple historic, cultural, social and personal parameters. The use and interaction with museum objects can be included in the development of historical empathy and rational understanding.

Dewey (Rowe 2002 cited in Paris 2002) considered the museum as an important informal learning environment, where the child interacts with the objects in order to interpret and expand his experiences. Objects<sup>60</sup> have meanings and values; inside the museum, objects obtain new meanings and can be transformed into teaching tools, used by the educators or the kindergarten teachers in order to collaborate with their curriculum. Therefore, museum objects, outside their natural environment, can transform into new sources of knowledge related to the social and cultural environment (Nakou 2001).

In addition, while the individual interacts behaviourally with the objects inside the social framework of the museum, it formulates new beliefs, values, motives and personal attitudes. Objects obtain various perspectives through the "dynamic process of interpretation and reinterpretation", since their *virtuality* brings new meanings and messages (Pearce 1994:26).

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<sup>59</sup>"The Visual Thinking Strategies model (VTS) is a research-based teaching method that improves critical thinking and language skills through discussions of visual images" (<http://www.vtshome.org/>).

<sup>60</sup>An object refers to something "unique", "authentic", "original", "genuine", "actual", but also as something "one-of-a-kind" or an "example of"; in any category in which they belong to, objects are associated with a museum collection (Heumann Gurian 2006:35).

Dewey (Hein & Alexander 1998) highlighted the significance of children's activities during the learning process inside the museum. Therefore, as Hein and Alexander<sup>61</sup> claim, "learning occurs in museums through the interaction of visitors with objects and programs provided to them. Carefully constructed educational experiences to them". Thus, school or kindergarten visits at museums offer opportunities to reflect knowledge from the objects<sup>62</sup>.

Every museum reforms a specific interpreting framework for its objects, as it places, classifies and exhibits them according with their philosophical and scientific orientation. The logic of every exhibition is connected with the specific scientific, social and cultural attitude which identifies the meaning of the museum objects and determines the way the audience perceives and interprets them. Every museum, through its mentality of the objects' exhibition, cultivates directly or indirectly, knowledge, thoughts or beliefs (Nakou 2001).

Moreover, the functions of the museum exhibit-objects are means to both convey meanings and contribute in the creation of children's aesthetic and cultural attitudes and values. Organized educational programs concentrate on the interests and spontaneity of the children/visitors, in order to learn them to make comparisons and think critically. Particularly, inside the museum, it is promoted interaction with the authentic objects; museum is considered, therefore, as a place full of opportunities for acquiring new experiences, meetings, research and disclosures. The personality of the child progresses with the development of creativity, critical thinking and autonomy; these abilities and skills can be expanded and consolidated through organized museum visits.

Lastly, children acquire primarily knowledge related to their environment with their direct contact with the objects which trigger their senses, generate their interests and stimulate experimentation and participation in learning. Therefore, the constructivist museum and its social-cultural approaches, aim to transform existing experience into the construction of new meaning (Black 2005). Museum exhibitions and objects can

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<sup>61</sup>Ibid 44

<sup>62</sup> Ibid

be considered as a code with a special kind of communication, which is needed to be decoded properly in order to be understood.

## **2.7 Learning in the museum and the kindergarten**

At preschool age, children's knowledge is related mostly to their surrounding world and they accept reality without analyzing it; since "knowledge consists of facts that are either right or wrong" (Felton & Kuhn 2007:104), knowledge is characterized by true objectiveness. Piaget (Hein & Alexander 1998), on the other hand, claimed that preschool children view the natural world differently from other age-groups (primary school children or adolescents) and they have the tendency to start to abstract thoughts.

Kindergarten includes activities which are designed by the kindergarten teacher and aim at providing learning aspirations to children on different thematic frames (like mathematics, environmental studies, language, etc.). These activities can also be achieved through visits at museums. The development of cooperative methods of learning in the early years can be contained in the museum experience. The designed museum educational programs take into consideration the age-group of the participants children and are mainly based on playing activities (for example: kinetic toys, fairy tales, role-playing, observation games, craft activities and painting). As Frøyland and Langholm (2009) highlighted, cooperation between museums and schools/kindergartens provide children more unique learning experiences than just the those offered inside the usual formal learning environments; with the use of different kinds of activities, *many different learning experiences in many different learning settings* can be created.

Learning is an outcome of children's interaction with their environment. Therefore, learning<sup>63</sup> can include an active engagement of experience, since it involves "the development or depending of skills, knowledge, understanding, awareness, values, ideas and feelings, or an increase in the capacity to reflect". Hereby, learning can be effective when it "leads to change, development and the desire to learn more"<sup>64</sup>.

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<sup>63</sup>Museums, Libraries and Archives Council, [www.inspiringlearningforall.gov.uk](http://www.inspiringlearningforall.gov.uk)

<sup>64</sup>Ibid

Additionally, as Hein (1995) claims, the aim of the constructivism museum is to help children/visitors to contract their personal context of knowledge from the exhibits and their interaction with them. Objects can reflect on children's needs, according to their characteristics; therefore, they focus more on the learner than the content.

However, museums provide opportunities for the development of constructive dialogue and argumentation. Active dialogue is a powerful tool of interactive learning and beneficial to children for creating future critical thinking individuals; children communicate through a dialogical process and the construction of a thinking framework regarding perceiving and understanding new information (Felton & Kuhn 2007; Linell 2009). In many occasions, the kindergarten teacher could be herself the organizer/designer of museum educational programs for her classroom children. In these particular cases, children's preparation before the museum visit should be taken into consideration; additionally, during the visit, she should use creative activities in relation to the exhibits, and, lastly, organize the evaluation process afterwards inside the classroom (Black 2005).

Moreover, G.H. Mead (1934/1956) claimed that role-playing is an important factor of social interaction. Role-playing is an activity that is frequently used in the kindergarten and, which helps children to come closer to the reality from other perspectives during both the activities in the kindergarten and the museum. The educational museum programs include often role-playing activities for kindergarten groups, aiming at children's interaction with each other, their social communication, cognitive development, and organization of their social ego.

Thus, kindergarten children's museum visits or participations in educational programs create enthusiasm and enjoyment, since they provide variation from their everyday setting and curriculum. Every child is affected by his own background related to any cultural, social, cognitive and personal context during his museum visit; through this context, he constructs new meanings and messages which are involved in his museum experience (Zapri 2004). Museum experiences are linked to the interaction with the others (museum educators, kindergarten teachers), as well to the acquisition of new skills, interests and development potentials (Harris Qualitative 1997; Zapri 2004).

### ***2.7.1 The curriculum of the Greek kindergarten and the museum***

Many countries like United Kingdom connect all the subjects of their school curriculum<sup>65</sup> with museum visits and they also suggest appropriate activities associated with them (Kakourou-Xroni 2010). The official Greek Curriculum for kindergarten refers to the role of the museum. According to the Kindergarten Teacher's Guide (Dafermou et al. 2007) for the public kindergarten, one of the aims of its proposals, which are formulated in the context of the modern educational programs, is that children should interact with the museum exhibits, in order to interpret them. The museum can be transformed into a creative learning setting through its properly designed educational programs, suitable for preschool children. From the late 1970's, museums implemented educational programs aiming at children's contact with the museum, the development of critical thinking and the cultivation of artistic feelings and creativity.

According to the Kindergarten Teacher's Guide (Dafermou et al. 2007), the fields of the National Curriculum for kindergarten are:

1. Language (Oral and written language), (*Γλώσσα*),
2. Mathematics (*Μαθηματικά*),
3. Environment (Exploiting the environment and learning about the world), (*Περιβάλλον*),
4. Creation- expression (*Δημιουργία- Έκφραση*), and
5. Computers (*Υπολογιστές*).

The Greek National Curriculum for kindergarten provides kindergarten teachers with opportunities to be flexible and decide freely the activities. The project method<sup>66</sup> can

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<sup>65</sup> In United Kingdom, since 1997, the government recognized that “education is central to the role of museums today” and adopted policies for this purpose (Hooper-Greenhill 2007:2). Additionally, Museums report a high correlation between school curricula and educational programs for a given subject in museums (about 97% or higher), (Institute of Museum and Library Services 1998, <http://www.ims.gov/pdf/pubssurvey.pdf>)

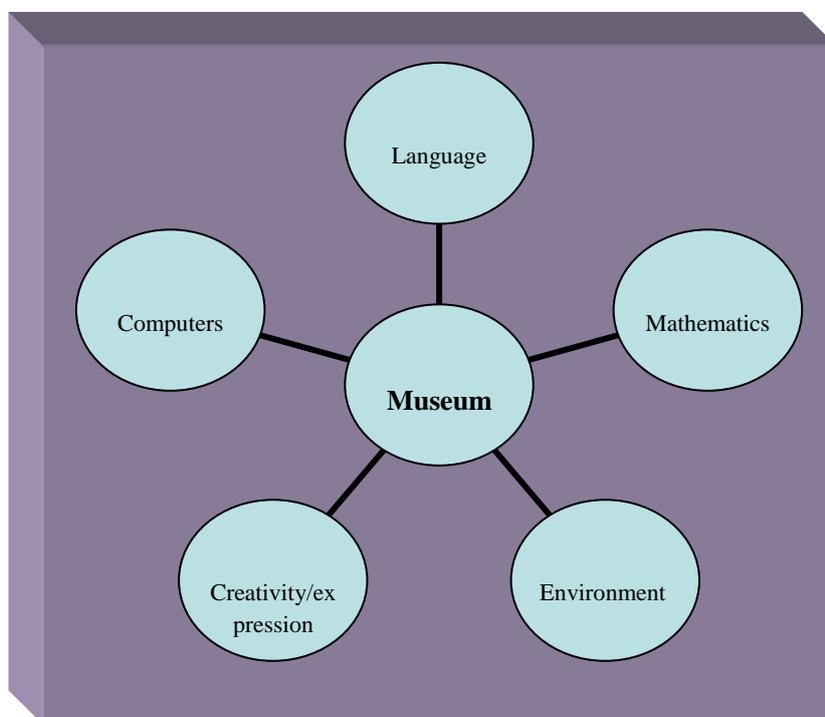
<sup>66</sup>As Katz and Chard (cited in Roopnarine & Johnson 2009:268-269) argue that “a project is an extended in-depth investigation of a topic, ideally one worthy of the children's attention, time, and energy. Projects are undertaken by a whole class, sometimes by small groups within a class, and occasionally by an individual child”.

be used as methodological tool. One of the main aims of the project method is to advance children's social competence through the development of knowledge, skills, dispositions and feelings in relation to their experiences at the kindergarten (Katz & Chard 2009 cited in Roopnarine & Johnson 2009).

Particularly, according to the Interdisciplinary Single Frame Curriculum<sup>67</sup> (DEPPS 2003), which is also related to the National Curriculum for kindergarten in Greece, both thematic approaches and designed projects emphasize on the interdisciplinary and holistic approach of knowledge; additionally, they focus on the development of children's interests, ideas and experiences, which occur during the process of learning. Therefore, the activities should be collective and partial to interaction, communication, verbal and written language (Dafermou et al. 2007).

The following Figure 2.2 shows the connection between the museum and the subjects of the Greek curriculum for kindergarten.

**Figure 2.2:** Connection between the fields of the Greek curriculum for kindergarten and the museum



<sup>67</sup> DEPPS (ΔΕΠΠΣ) (2003), <http://www.pi-schools.gr/programs/depps/>

The priming for a museum visit could be anything associated with the children's interests, the designed program or any related project.

Furthermore, a designed educational program in a museum should include the following stages (Dafermou et al. 2007; Kakourou-Xroni 2010):

- Preparation at the kindergarten before the visit
- Activities during the visit
- Process and use of activities at the kindergarten after the visit
- Evaluation

The teacher is responsible to visit alone the museum before the planned visit, make the appropriate arrangements with the museum's staff and check that all the safety rules are compliance.

Additionally, the organization of a planned and designed museum visit aims at the awareness of the children's interests on subjects that are connected with their cultural heritage. Furthermore, the historical development of humanity includes the aesthetic improvement. Besides, the visit at the museum promotes the understanding of the natural and technological world, not to mention the fact that children have the opportunity to compare their lifestyle with their ancestor's lifestyle. Thus, museum visits, not only is an important support regarding the skills of observation, investigation and description, but it is also a way to initiate strategies that lead to autonomous learning (Dafermou et al. 2007).

Finally, when the kindergarten teacher designs the activities for a specific program regarding a museum visit, she should take into consideration the needs and experiences of the specific group of children; moreover, she should relate the program with the new pedagogical theories, the use of dialogue and conversation, the experiential learning (through mental and hand-use activities which include painting, playing, touching, moving, or describing), the new technologies and multimedia, and the interdisciplinary approach of learning (ICOM, UNESCO 2004).

### ***2.7.2 Museum education and the Norwegian kindergarten curriculum***

The association between the kindergarten and the museum can encourage children to participate in the educational practice and cultivate their multiple skills on a cognitive

and emotional level. The enrichment of children's experiential representations is a factor contributing to the promotion of cognitive development in relation to the appropriate educational guidance and by taking into account their prior representations. The connection between learning in the museum and the use of methodological practices can illustrate the museum as a place of creative learning and inspiration, which responds to the visitors' dispositions. Especially, as it is mentioned in the Norwegian Law for Kindergarten (Lov av 17. juni 2005 nr. 64 om Barnehager), the kindergarten should take part in the cultural perspectives of the local society, through its 'meeting' and communication with local institutions and organizations.

Additionally, cultural values have a significant role in the Norwegian kindergarten, both in local and national level. The Framework Plan for the Content and Tasks of kindergartens (Rammeplan 2006) aims in *lifelong* learning and places kindergarten in one of the most important settings for children's future (Tiller & Tiller 2003). Therefore, the Norwegian curriculum (Rammeplan 2006) suggests activities aiming on the personal and interpersonal relations as a method for developing lifelong skills for kindergarten children. The creation of small groups of different ages is also recommended for free-time and organized activities. The role of playing and social activities is also highlighted as a frame of the curriculum activities.

According to Norwegian curriculum for kindergarten (Rammeplan 2006), children's participation in everyday internal and external activities (inside and outside the kindergarten setting), contribute in the expanding of their experiences. Kindergartens, as well as museums, are part of the society that they belong to; the creation of a collaborative relationship between them is in focus, since it can enhance new knowledge related to children's social and natural environment, the traditions and culture. The museum offers all these possibilities for children to acquire new experiences and enriched them with new information, through the interaction with the society and the local environment. More specifically, it is highlighted the connection of kindergarten with *the local community and the society* (one of the fields of the Norwegian curriculum for the kindergarten), and the variety of opportunities offered for different uses regarding the curriculum and the community. Museum visits are promoting motivation and interest for kindergarten children (Moen 2004).

In particular, the fields of the Norwegian Curriculum (Rammeplan 2006) for kindergarden are:

1. Communication, language and text (*kommunikasjon, språk og tekst*),
2. Body, movement and health (*kropp, bevegelse og helse*),
3. Art, culture and creativity (*kunst, kultur og kreativitet*),
4. Nature, environment and techniques (*natur, miljø og teknikk*),
5. Ethics, religion and philosophy (*etikk, religion og filosofi*),
6. Local community and society (*nærmiljø og samfunn*), and,
7. Numbers, space and shapes (*antall, rom og form*).

Additionally, it is mentioned that through the learning process, children know and understand more their natural and social environment when they interact with it through playing or organized activities. Museum is a diverse learning environment within it is involved inactiveness, fantasy, adventure on an educational frame (Rammeplan 2006). Thus, since learning can be enhanced in both formal and informal situations<sup>68</sup>, and as museums are settings suitable for informal type of learning, they can both provide an active approach to new knowledge through their connection with the curriculum.

Lastly, educational programs in local museums can be organized and carried out in association with the fields of the Norwegian kindergarden curriculum. Cooperation between the kindergarden and the local society can be based on the constructive interaction among kindergarden and cultural life inside the local environment.

## **2.8 Educational programs in the museum for kindergarden children**

In nowadays, museums organize programs for kindergarden children aiming both on the children's contact with the museum and the development of techniques for observation, cultivation of the imagination, creativity and artistic feeling. These programs are child-centered and use modern teaching methods. The educational programs designed by museums have "participatory research learning methods with interdisciplinary dimensions" (Mouratian 2007-2008:5).

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<sup>68</sup>Ibid 7

The educational programs in museums focus on the communication with their audience/children and are achieved through empirical learning. Moreover, as Falk and Dierking (1992:114) argue, museum is a perfect environment “for meaningful learning” as it provides opportunities for “multi-sensory experiences”. More specifically, the museum designed programs emphasize on the connection of the exhibits with the audience/children and in the creation of meanings and correlations with their everyday life (Nikonanou 2010).

Additionally, Janes (2010) argues that the museum can create awareness to its visitors regarding all the global issues that are in the agenda of our everyday life, like environmental issues, or multiculturalism; therefore, it is considered as *mindful and meaningful*. The museum can be connected with different perspectives of the society since it is more than a simple leisure activity, as it was considered in the past. More specifically, as museum acquires a more significant role in the community, it can be renamed to *Post-modern museum* (Hooper-Greenhill 2000; Janes 2010).

The basic principles of a museum educational program are:

- ✓ To familiarize children with the term *museum*, the artwork, the cultural, technological and natural heritage.
- ✓ To make visits at the museum a pleasant experience, tailored with the needs and capabilities of the audience.
- ✓ To develop through the exhibits the ability of observation, prediction, hypothesis, generalization, comparison, discrimination, evaluation.
- ✓ To provide children ways of learning and independent study based on subsequent visits (Mouratian 2007–2008: p.5).

An educational museum program requires both the effective cooperation between the teacher and the museum’s staff and the consideration by the teacher of the following parameters:

- ✓ Customize the program to the specific characteristics of the group (age, cognitive level, homogeneity or not in ethnological, linguistic or other characteristics)
- ✓ Connecting the visit with the school/kindergarten curriculum and the interests of the children

- ✓ Ability to effectively evaluating the program, in order to check whether the original goals were achieved (Kokkinos & Alexaki 2002).

For successfully achievement of the goals of the curriculum and the museum visit/educational program, the teacher is required to use a specific methodology and design on the basis both of the visit and the program. In particular, the teacher:

- ✓ Selects the museum and the theme of the program
- ✓ Puts goals with cognitive, emotional and social directions, in relation to the aesthetic experience and the development of the children's skills
- ✓ Defines the time, the number of the group members which will participate, and the materials to be used (disposable or not)
- ✓ Selects the method for the teaching/learning process
- ✓ Sets questions (use open and closed) to help children discover facts and organize their thinking
- ✓ Evaluates the procedure and examine if the aims of the program were accomplished (Mouratian 2007-2008).

Some of the principles in the design of museum educational programs are (ICOM, UNESCO 2004:124):

- “✓ start from the knowledge and life experience of the audience;
- ✓ provide opportunities for conversation and discussion that help students to handle new ideas and to develop reasoned arguments;
- ✓ offer first hand experiences for the senses and the mind including:
  - a. looking
  - b. describing
  - c. touching
  - d. moving
  - e. drawing
  - f. playing;
- ✓ let the student or other visitor find his/her personal expressions for what they experience;
- ✓ allow the opportunity and time for individual exploration;
- ✓ plan any programme of educational visits carefully, taking into account e.g. the schedule of the local school year, the season of the year, and

the time of day;

✓ allow the group time to adjust to the new teaching and learning space in the museum;

✓ build into the programme preparation before the visit (e.g. pre-visits or training courses for the school's own teachers, or the written information or learning materials provided in advance) and the follow-up to the visit; and

✓ evaluate each visit or organised programme and consider possible changes for the next time”.

Foremost, the teacher, while including museum education in her curriculum, offers children opportunities to incorporate museum into their daily life; additionally, she involves them in a process of mobilization of interests, enrichment of knowledge and awareness and enabling them to become familiar with the concept of the museum, beyond its typical and standard role as a provider of thematic information.

### ***2.8.1 Evaluation of museum educational programs***

The evaluation of the museum educational programs could include a simple questionnaire which children fill out in the end of the specific program with the help of the teacher; moreover, children could be asked to draw what impressed them during their attendance of the educational program or during an organized tour. The activities which may follow a museum program could strengthen its potentials and expand it into the curriculum. Therefore, according to Kelman (1995:205 cited in Hooper-Greenhill 1995), “the purpose of evaluation is to inform current and future planning, known as formative evaluation, and to judge the effects of educational programs, know as summative evaluation”.

During the evaluation, the teacher could repeat those activities which she remarked that excited children and use them in the contribution of acquirement of knowledge and skills. Moreover, the teacher should investigate:

1. Which parts of the program were children very interested in
2. Which parts of the program were children not very interested in
3. If the pedagogical material proved to be difficult for the children
4. In which activities responded more positively the children
5. If the experiences which the children obtained were satisfactory in relation to:

- experiences concerning the exhibits (if they could simply react with the objects, analyze their further characteristics, synthesize ideas from different sources, explain by combining analysis and synthesis)
- cognitive experiences (if their knowledge has expanded, if they gained more information and knowledge, etc.)
- social experiences (if they interacted with each other, if they understood other children's emotions, etc.)
- interpersonal experiences (if they imagined other situations or places, if they recalled former experiences, if they could express their feelings created by the interaction with the exhibits, etc.), (Black 2005).

Museum educators are responsible to provide opportunities to children for lifelong learning; with their knowledge regarding museum learning perspectives can help children directly and practically in the learning process and determine the educational practice of the museum and the nature of learning inside it (Zeller 1985). Therefore, educators are responsible for the positive interaction between the visitors and the exhibits. According to Prado (2004:5), a constructivist exhibition should provide different range of learning models, activities, experiences and materials which will help the participants of school programs “utilize their life experiences” and “experiment, conjecture, and draw conclusions”.

Thus, the role of the museum educator is enhanced by the mediating role of the teacher. The teacher is responsible for the preparation before the visit in order that the children will have the necessary information related to the program at the museum before their visit; hereby, the teacher is responsible both for the structure and the organization of the visit, as well the evaluation process after the visit.

Finally, many epistemological models have been used in order to evaluate educational museum programs; many of them adopt different methods in order to observe, measure and quantify children's correspondence to them. These methods are part of usually long term projects of evaluation and many include questionnaires, interviews, observations on groups and aim at the development or improvement of the educational framework of these specific programs (Hooper-Greenhill 1994).

## 2.9 Examples of educational programs

During this study, it was raised the need to the research to explore how museum educational programs function in practice. For this reason, the researcher decided to include inside this research two examples of museum educational programs for kindergarten children from the two countries of the study. The chosen museums belong to different context frames (Folk Art, Technology) in order to investigate different methods of learning in the museum.

The third displayed example came as a spontaneous thought after an invitation from a kindergarten teacher of the participant kindergartens in Tromsø, Norway. The kindergarten teacher invited the researcher to participate as an observer at a planned museum visit. The researcher considered this offer as an interesting point for this study, in order to examine how a kindergarten teacher organizes a museum visit for the children of the kindergarten. The followed examples will not be evaluated according to any previous evaluation approaches<sup>69</sup> but they will be examined in relation to the previous theoretical learning perspectives (Chapter 2).

### ***2.9.1 Example of an educational program at the Greek Folk Art Museum in Athens, Greece***

The Greek Folk Art Museum<sup>70</sup> was founded in 1918, after the World War I, when the need for maintenance of people's cultural marks was imperative. The Greek Folk Art Museum<sup>71</sup> was one of the first museums in Greece that included organized educational programs for school groups since 1981.

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<sup>69</sup>“Evaluation has been described by its advocates in museums as the ‘scientific’ approach to furthering knowledge about effective exhibits” (Lawrence 1991 cited in Kavanagh 1991:9).

<sup>70</sup>The museum includes four different buildings at the moment. The main building is where the main exhibition is housed and the place where the department of educational programs is situated. Most of the exhibits came from charities, <http://www.melt.gr/index.php?lang=en>.

<sup>71</sup> Concerning the educational section of the museum, apart from the offered educational programs, they offer visual material which the kindergartens can borrow and use with their children in the kindergarten (they are called *Museum-briefcases*, *Μουσείοσκευές* or *Μουσείοβολίτσες* in Greek). Additionally, they offer also educational envelopes with pictures or information material of the exhibits, or educational publications regarding the museum's exhibitions. These educational boxes

In the main building of the museum, where the specific educational program was held, are exhibited representative samples of Greek Folk Art (traditional costumes from different areas of Greece, samples of the art of weaving and pricking, shadow puppet theatre, ceramics, folk art paintings, etc.). One of the purposes of the specific educational programs is the acquaintance of the children with their folk culture in an experiential way and a positive experience for their future visits. Folk art is usually known to most of the children in Greece from their family environment (for example, grandparents from the countryside who they visit during their summer holidays, etc.); therefore, it is easier to be connected with their everyday life and their experiences, as the Piaget and Vygotsky had argued (see Chapter 2, pp. 35-37).

The observed educational program (Appendix A.1 for information's letter and observation's consent) had the title *Good, good afternoon everybody. The show begins...* and it referred to the traditional folk shadow puppet theatre of *Karagiozis*<sup>72</sup>. Shadow puppet theatre fascinates children as it includes movement and music, and inspires their fantasy, while as it can also entertain. The group that participated in the observed program was a group of 24 kindergarten children, escorted by 2 kindergarten teachers.

Firstly, the museum educator introduced children to the museum setting (get them familiar with the term *museum*), as Mouratian (2007-2008) had argued. During the program, the educator used often the *questions-answers* method (*maieutics-Socratic method*<sup>73</sup>); she tried to connect the objects (the puppet-figures, the scenery, etc.) with children's prior knowledge, and introduced new words and terms that maybe were not

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support learning and encourage investigation and collection information about the exhibits through playing activities or other creative actions inside the kindergarten classroom (Nikonanou 2010).

<sup>72</sup> Karagiozis is a hero of a shadow puppet that has its roots from the East and was and is very popular among children. Karagiozis is a poor family man who gets into adventures during his effort to find food for his family but also a little lazy.

<sup>73</sup>The method of *directed conversation* or *maieutics method* emphasizes on communication and interaction between the educator and the visitors. These interactive relations have as motive the museum's objects or the used visual material which are connected with the context of the program. This method is used as an introduction stage for the educational program and aims to involve actively the visitors in the process of interacting with the museum's exhibits; this dialogue between the educator and the children marks out the communicative dimension of the exhibits through a process of discovery of children's interest and knowledge (Nikonanou 2010:100-101).

familiar to the children. Almost all the activities used in the specific program (like matching games with pictures-costumes, jobs of the present and the past, voices, sounds, or the final activity where the children made their own figures, etc.) were short, without getting the children tired (approximately 10' each activity). The total duration of the program was 45'. Regarding the curriculum, this program could be connected with the field of human environment.

During the program, the researcher noticed that, although the number of children was large (24), they showed interest during the activities and regarding the exhibits used. It should be mentioned that there were used two different places for the activities; the first room was inside the museum where they exhibited the puppet figures (as well as many traditional costumes from different areas of Greece which were connected with the Karagiozis figures during the program); the second room was on the basement of the museum and was used as an activity room with a projector and tables. This activity room was used during their last activity of cutting and colouring the figures, which lasted a little longer than the others (approximately 15'), (see Appendix A.3 for photos from the specific program).

### ***2.9.2 Example of an educational program at the Norwegian Museum of Science and Technology in Oslo, Norway***

The Norwegian Museum of Science and Technology<sup>74</sup> was opened in 1986 and includes exhibits related to science, industry, technology and medicine. Since 1995 it is included in the National Museums of Norway. The museum offers many programs for school and preschool children on different subjects such as astronomy, transportation, technology, energy, medicine and health.

The observed educational program (see Appendix A.2 for information letter and observation consent) with the title *Dragon Berta*<sup>75</sup>, was a part of the offered programs by the Science Center of the museum and was addressed to kindergarten children

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<sup>74</sup><http://www.tekniskmuseum.no/>

<sup>75</sup>[http://www.tekniskmuseum.no/index.php?option=com\\_jdownloads&Itemid=565&task=finish&cid=3834&catid=174](http://www.tekniskmuseum.no/index.php?option=com_jdownloads&Itemid=565&task=finish&cid=3834&catid=174)

(*førskolebarn*). The specific program aims at the introduction of chemistry for kindergarten children (specifically of the age of 5 until 6 years old). Chemistry is a thematic area that fascinates children because it includes the unexpected and it implies active participation. Moreover, the specific program encouraged kindergarten teachers to prepare children for their museum visit at the kindergarten and suggests some activities<sup>76</sup> for this reason. Thus, children can come to the museum in order to participate in the program having some preconceived ideas about what they will do and see. These pro-visit activities follow the suggestions about preparing children before the visit and the role of the kindergarten teacher on this, as Dafermou et al. (2007) noticed (see p. 53).

In particular, the specific program took place in a chemistry lab of the museum where children had to *act* like chemicals; they had to wear white lab clothes with special protection glasses and use the lab's equipment (see Appendix A.4 for photos from the specific program). Firstly, the educator began the program by reading a story about Dragon Berta, who was the book character from which was named from the program. Storytelling is often used in kindergarten; as Giannikopoulou (Giannikopoulou 2008:3) claims "as the magic of reality meets the colors of fantasy, so reading stories to preschool children can lead to knowledge of science". Furthermore, storytelling related to the exhibits' contexts can be reclaimed with the emotional enriching of the children/visitors and their active participation in further activities (Nikonanou 2010).

During the program, which lasted 45', participated 9 children in the age of 5 years old (preschool children/ *førskolebarn*) escorted by 2 kindergarten teachers; children had the opportunity to make many experiments by using everyday life materials (vinegar, washing powder, baking powder, etc.), always under the instructions of the educator. This program used experiential learning and learning by doing as means for learning; according to Dewey's views mentioned previously (see pp. 39-41), through hands-on activities, children can learn in a more entertaining, but also educative way. Children interact directly with materials which are already known to them and acquire new information based on prior knowledge from their everyday life in the kindergarten or

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<sup>76</sup>[http://www.tekniskmuseum.no/index.php?option=com\\_jdownloads&Itemid=565&task=finish&cid=3927&catid=174](http://www.tekniskmuseum.no/index.php?option=com_jdownloads&Itemid=565&task=finish&cid=3927&catid=174)

at home. Furthermore, discovery learning is characterized by a process related to acquisition, processing and coding information; therefore, children expand and expand their knowledge, play and handle objects, investigate and edit stimuli, etc. (Alevriadou et al. 2008). The specific program could be connected with the field of Nature, Environment and Techniques from the Norwegian Curriculum (see p. 55).

Lastly, the museum offers some suggestions for activities<sup>77</sup> that can be made afterwards in the kindergarten in relation to the program, and, as an outcome to those made in the museum's lab. It was very positive that the participating group was small (9 children), and the interaction between the educator and the children was more directly; the educator could answer easier to questions while it was also not so difficult to observe the children during the experiments, as it could be with a bigger group. Children showed enthusiasm and interest during the activities, according to the aims of the educational programs in museums.

### ***2.9.3 Example of an observed day with kindergarten children at Tromsø Museum in Tromsø, Norway***

Tromsø Museum<sup>78</sup> is situated in the city of Tromsø in North Norway and is a University Museum. It was established in 1872 and has been part of the University of Tromsø since 1976. The museum includes archaeological, geological, religious, and ethnographical (related to the Sámi minority) exhibitions and is one of the most visited museums of the city.

During the research, one of the kindergarten teachers who participated in the project of the study asked the researcher if she could join him and his kindergarten group in a planned visit at the specific museum. The research considered the offer interesting in order to see how a kindergarten teacher organizes in practice an excursion to a museum, how the term *museum* is approached, what activities are done inside the museum, etc. The kindergarten teacher explained to the researcher that the specific visit to the museum was an outcome of a theme about the Sámi minority in Norway,

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<sup>77</sup>[http://www.tekniskmuseum.no/index.php?option=com\\_jdownloads&Itemid=565&task=finish&cid=3929&catid=174](http://www.tekniskmuseum.no/index.php?option=com_jdownloads&Itemid=565&task=finish&cid=3929&catid=174)

<sup>78</sup>[http://www2.uit.no/ikbViewer/page/tmu?p\\_lang=1](http://www2.uit.no/ikbViewer/page/tmu?p_lang=1)

their culture, traditions, way of living, etc. Moreover, he often uses museum visits in relation to the kindergarten projects; apart from that, he mentioned that he does the tours himself when he has learnt about the museum themes and exhibitions. But, when he thinks that he has not enough knowledge related to a specific museum (like art galleries/museums), he chose organised tours or offered programs for kindergarten.

In the specific observed day (see Appendix A.5 for photos from the observed day), participated 17 children between the ages of 3 and 6 years old, accompanied by 4 kindergarten's personal (1 was the kindergarten teacher and pedagogical leader of the group and the rest were either kindergarten teachers under their praxis or assistants). The kindergarten teacher used some of the exhibits of the museum referring to the Sámi culture, where he provided information about the living style, their habits, costumes, etc. Furthermore, he encouraged the children to observe the exhibits and ask questions. The children participated in a very high extent, combining what they had discussed in the kindergarten with what they experienced in the museum. As it was mentioned previously (see Chapter 2.7, p. 50), active dialogue can be positive means for essential learning.

The kindergarten teacher, having into consideration the fact that children of these ages need to have variety in their activities and cannot concentrate long in one activity, used approximately 10' on every 'group meetings'; then, he encouraged the children to go around alone in the exhibition and look for things that seemed interesting for them. He recommended them to look around for *interesting things*, to ask questions about them and interact with some exhibits (inside the museum there were many interactive exhibits, which are making visits in museums interesting, fun and educational at the same time), (see p.36).

Finally, the kindergarten teacher explained the researcher that the next day he would include some activities related to the museum visit and according to what they had seen and talked about during their visit. This procedure was based on the plan about an organized trip in a museum and the stages the kindergarten teacher should follow (preparation, activities during and after the visit, evaluation), specially when the visit is an outcome of a small or long term project occur in the kindergarten (see Chapter 2, pp. 53).

## CHAPTER THREE – RESEARCH DESIGN

### 3.1 Introduction

Research is any kind of careful and systematic study and investigation of any part of knowledge, in order to discover principles and make generalizations. Epistemological research emphasizes on data gathering which can support or refute the proposed conclusions or some general principles. Furthermore, educational research is a systematic process of gathering and analyzing data in order to understand phenomena and solve problems in the educational setting.

The aim of the present study was to examine the policy of kindergarten teachers regarding learning in the museum and how this is implemented within the curriculum settings in Norway and Greece. In particular, any differentiation between the Norwegian and Greek kindergarten teachers in the use of the museum as a learning arena was also investigated, as well as their acquired knowledge on the specific subject.

### 3.2 Research Tools

Based on the nature of the present investigation, data gathering was conducted through a main research tool which is the questionnaire. The gathered questionnaires will provide the researcher results, which will be submitted in comparison and discussion. These elements will lead the researcher into conclusions for the main research questions.

#### 3.2.1 *Questionnaire*

The questionnaire consists of a group of questions designed to provide information about one or more research questions on the subject of the investigation. Questionnaires are often used to gather information about attitudes, opinions or behaviors. The questionnaires normally use three types of questions: 1) closed questions<sup>79</sup> or questions with specific answers, 2) open questions, and, 3) questions graded on a scale responses (Cohen, Manion & Morrison 2007).

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<sup>79</sup>“A closed question is one in which the respondents are offered a choice of alternative replies.....Open or free-response questions are not followed by any kind of choice, and the answers have to be recorded in full” (Oppenheim 1992:114)

The questions in a questionnaire aim to be clear and must be written in a simple way, without providing difficulties to the responders to answer them. The formulation of the questions should focus on the aims of the researcher; the rule is that they should give an advantage to the research questions of the specific study. Furthermore, the questions should provide the researcher opportunities for discussion, as well as the results (Kleven 2002).

A problem related with questionnaires is that people often complete them “hastily and carelessly” (Gillham 2008:9); but, questionnaires are often a convenient research method which can, although, provide valuable and valid information for the researcher. Additionally, questionnaires are economical and easy to be arranged with pre-coding the questions; on the contrast, these pre-coded questions can be a disadvantage because the responders have limited opportunities to give a natural and truly answer since the answers are given already from the researcher (Denscombe 2007).

More specifically, questionnaires can include both questions regarding facts (like education, years of working experience, seminars, etc.) and questions regarding opinions, attitudes or intentions. The categories of questions related to the attitudes, opinions or intentions are usually open questions and include the possibility of either low response or response with brief context (Cohen, Manion & Morrison 2007).

Moreover, as Bell (2010) suggests, the researcher should pilot the questionnaire before distribute it to the recipients, in order to check the time needed for its completion and whether the questions and instructions are clear and understandable. Additionally, since the questionnaire is the mean of communication between the recipient and the researcher, it should motivate the recipient to provide the necessary information with honesty, validity and impartiality. Thus, the researcher during the construction of the questionnaire should take into consideration the context and type of the questions and their syntax regarding the choice of words; lastly, he/she should examine the number and position of the questions inside the questionnaire (Filiás 1977).

In the present study it was chosen the semi-structured questionnaire where the participants answer multiple choice, closed and open questions. Closed questions are easy to fill out and be coded (with various programs, like Statistical Package for

Social Science SPSS 16.0 used in the current research). But, they don't provide the responder the opportunity to add comments, remarks and explanations to the given questions; as a result, there is the possibility that the given categories don't cover totally the subject and may include prejudices (Oppenheim 1992).

On the other hand, Oppenheim (1992) highlights the use of opened questions. Responders can answer freely to open questions by expressing their opinions or views, justifying them and avoiding the limitations of predetermined answers which characterize closed questions, although they are difficult to be categorized or coded (Cohen, Manion & Morrison 2007). Furthermore, open questions provide the responder the opportunity to write "in his own language" (Campbell 1945 cited in Blumer 2006:215).

In particular, another problem that the researcher often has to face with questionnaire's distribution is the non-response. In order to deal with this problem, the researchers usually repeat the request and assure for its anonymity and confidentiality (Bell 2010).

There are different types of questionnaires which the research is called to use based on the nature of the specific investigation. Therefore, in the present study, the use of "a questionnaire sent as an attachment" (Denscombe 2007:160) was considered to be the most appropriate under the research circumstances; nevertheless, this choice could be a little inconvenient for the responders since they need to go through a certain procedure (open, complete, save and reattach the file) to reply to the questionnaire (Denscombe 2007). The main reason for the choice of the use of e-mail contact was the location of the kindergartens (Athens, Tromsø, and Oslo), the difficulty based on the distance to reach the kindergartens with actual direct contact by the researcher, as well with the lack of time. This type of questionnaire distribution provides the participants a type of anonymity and motivates a more accurate and reliable supplement of information. Moreover, as it can be delivered without the presence of the researcher, it provides benefits in its quick distribution. Nevertheless, in some cases, as it will be explained in the Chapter 4, some questionnaires were delivered personally by the researcher. The researcher, though, is the one that will decide which type of questionnaire is the appropriate for the specific research.

## CHAPTER FOUR – METHODS

### 4.1 Introduction

The present study was designed by the researcher. In the beginning, the researcher designed a questionnaire and because of the speciality of the research (distribution of questionnaires in two different countries and for creating positive participation from the responders), the questionnaire was written in Norwegian and Greek (see Appendix B. 3. B. 4). Both questionnaires included the same questions (number and context). Additionally, for the accommodation of the analysis of the results, the researcher made a version of the same questionnaire in English (see Appendix B.5). Nevertheless, under consideration of the researcher was taken the differences of the curriculum of both countries (see pp. 51-55) and the study background of the kindergarten teachers (see pp 24-28).

Moreover, this research has as main variable the country from which each kindergarten teacher is coming from (Norway/Greece) and will examine the attitudes towards the use of the museum as a learning arena from the participants of each group. Therefore, it will be investigated any possible differentiation in the frequency of the annual use of the museum (with any probable means). Finally, before the questionnaire was distributed, it was tested by one kindergarten teacher from Greece and from Norway, in order to examine the time need for filling and whether the questions were understandable and clear enough.

### 4.2 Choice of subjects

For the purpose of this study, a *convenient sample* was used from the kindergarten teachers in Norway and Greece. The choice of a convenient sample, although it cannot be accepted as precognition for statistical generalization, it can be considered as valid (Kleven 2002). The sample of this research was chosen by convenient sampling by the researcher and includes the choice of respondents (Cohen, Manion & Morrison 2007).

Therefore, the purpose sampling of kindergarten teachers from Greece and from Norway was chosen in addition for the convenient sampling of the researcher and the main reason was the lack of time and the problem of distance between the study place of the researcher and the chosen places where the responders came from. As Stake

(cited in Denscombe 2007:16) claims “our time and access for fieldwork are almost always limited. If we can, we need to pick up cases which are easy to get to and hospitable to our inquiry”.

#### ***4.2.1 Participants kindergarten teachers in Norway***

The questionnaire to kindergarten teachers in Norway was distributed to kindergartens both in city of Tromsø and Oslo which were chosen randomly from the communities Internet site<sup>80</sup>. The kindergartens were either communal or private (in the lists provided on the internet sites were included both). The distribution took place during February and March 2011. The questionnaire was sent as an attachment file followed by the information letter (see Appendix B.2) through e-mail distribution to 80 kindergartens (40 from Tromsø and 40 from Oslo). From this distribution the researcher received back 55 filled up questionnaires. It is not possible to calculate how many kindergartens were informed about this request of participation in the specific study since the kindergarten’s administrator (leader of the kindergarten) was responsible to inform and forward the questionnaires to the kindergarten teachers working with the specific age group of this study inside the kindergarten (between 3 and 6 years old). As a result, the researcher received some individual responses without referring from which kindergarten they belong to. Therefore, it cannot be given the exact number of informed teachers for participation but only the number of the main direct distribution by the research regarding the kindergartens (which was 40 in Tromsø and 40 in Oslo, as it was mentioned previously). Moreover, in the research, there were asked to participate 5 of the master students /colleagues of the researcher; from this distribution, there were returned 4 filled out questionnaires and raised up the final number of gathered filled out questionnaires in 59 (N=59).

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<sup>80</sup> <http://www.tromso.kommune.no/barnehager.121094.no.html> (Tromsø), [http://www.byradsavdeling-for-kultur-og-utdanning.oslo.kommune.no/hovedside/barnehager/oversikt\\_barnehager/](http://www.byradsavdeling-for-kultur-og-utdanning.oslo.kommune.no/hovedside/barnehager/oversikt_barnehager/) (Oslo). The use of a sampling frame of the kindergarten teachers is important for the researcher in order to make his/her selection for the needs of the research (Denscombe 2007).

#### ***4.2.2 Participants kindergarten teachers in Greece***

The questionnaires addressed to kindergarten teachers in the city of Athens were distributed to those kindergarten teachers, who, at that specific time, attend their two year training program<sup>81</sup> under the supervision of the University of Athens. The distribution took place in January 2011. The research had to request permission by the president of training program<sup>82</sup> and delivered the information letter to the administration office (see Appendix B.1). Kindergarten teachers attending the specific training program can come from the area of Athens or from other places in Greece. A personal contact between the researcher and the probable responders was made when the questionnaires were distributed to the kindergarten teachers under training in Athens. The choice of the specific group for distribution of the questionnaires was convenient for the researcher for the reason of lack of time and distance.

The researcher distributed 90 questionnaires and gathered back 61 filled out questionnaires. Moreover, there were also distributed 20 questionnaires to kindergarten teachers who participated with the researcher to this specific training program 2 years ago and they work at the present time in public kindergartens in different areas of the city of Athens. From this distribution, 18 questionnaires were received back and raised the number of the filled out questionnaires up to 79.

Consequently, the researcher, because of the difference in the number of the gathered questionnaires from both countries (N=59 from Norway and N=79 from Greece), and for the purposes of this study which required equality in the number of the questionnaires for the data analysis, decided to keep the first 59 questionnaires that were received from Greece.

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<sup>81</sup> Every year, after an optional exam procedure, approximately 100 kindergarten teachers have the opportunity to attend a two years training program either in Pedagogy or in Special Pedagogy. Those kindergarten teachers will have permission from their work for the meantime but they have the obligation to attend the courses (around 25 obligatory or optional) and participate successfully at exams (<http://dna.ecd.uoa.gr/index.htm>).

<sup>82</sup> Mrs. Eugenia Flogaiti was contacted by e-mail and the researcher received an e-mail back for the permission.

### 4.3 Procedure and data collection

The methodological tool that was chosen for the kindergarten teachers in both countries is the questionnaire. The questionnaire included 15 questions. In their forms, the questions of the questionnaire are closed or open. It should be mentioned that some of the closed questions provide the responder to choose the answer *Other*, where she/he has the chance to give an open answer. Some of the questions were managed with the Likert scale<sup>83</sup> which measures attitudes in the existence of one and only dimension (Cohen, Manion & Morrison 2007). The questionnaire was included as an attachment file to the e-mail that was sent to the kindergartens in Norway and some kindergartens in Greece. The questionnaire that was used in the present study is to be found in Appendix B (B. 3-5), with the covering letter that was enclosed for the head teacher indicating once more the aim of the survey and conveying its importance (Appendix B. 2). In addition, the questionnaires were commenced with a short information statement of the purpose of the study. A direct reference to confidentiality and anonymity was made as well. The e-mail with the attached files (questionnaire, covering letter) was sent in high priority.

The researcher aimed to find out from the questionnaires information about kindergarten teachers' conceptions related to learning inside the museum, due to their possible or not initial or further training and the national curricula for preschool education, their use of the museum as a learning setting for kindergarten children. Therefore, the researcher considered that a self-designed questionnaire would be more appropriate for the meeting of the research purposes. This questionnaire consisted of 15 items and took the following format in order to explore all the partial objectives which were considered to be:

- ✓ evaluate the kindergarten teachers' conceptions regarding the use of the museum as learning setting for kindergarten children. Particularly, investigate whether there is a differentiation between the conceptions of kindergarten teachers from Greece and Norway;

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<sup>83</sup>Likert scale was published by the psychologist Rensis Likert in 1932 (Cohen, Manion & Morrison 2007; Brace 2008; Bell 2010).

- ✓ find out how often the museum is used by the kindergarten teachers regarding different means, like visits, participating in organised educational programs, use of visual materials, etc. Furthermore, explore if the frequency of these uses is similar for the two groups or there is a differentiation;
- ✓ investigate whether Norwegian and Greek kindergarten teachers' previously acquired knowledge related to museum education affects their museum uses and measure how often teachers with or without acquired knowledge use the museum. Also, find out whether kindergarten teachers are aware of the offered museum programs in their cities and investigate if their awareness could be related with the reasons why the kindergarten teachers do not visit or not attend educational programs in museums along with their pupils more often;
- ✓ explore if the years of working experience as a kindergarten teacher affect the frequency of museum uses. Additionally, estimate if the kindergarten teachers with less years of working experience use more often the museum as a learning setting or not;
- ✓ find out in what extent do kindergarten teachers in Norway and Greece think that their kindergarten children will increase or acquire skills after their participation in educational programs in museums;
- ✓ investigate which of the fields of their national curricula for kindergarten they think that can be associated with the museum, and which field have they mostly used in practice before, according to their answers;
- ✓ explore if the kindergarten teachers have previously designed and carried out programs or activities inside the museum for their kindergarten group. Moreover, gain access to what field of the curriculum those programs/activities were connected to in order to explore once more the field of the curriculum that has been connected mostly with the museum among the kindergarten teachers from the two countries;
- ✓ investigate the reasons why the kindergarten teachers do not visit or not attend educational programs in museums along with their pupils more often. In addition, find out if the same reasons concern the two groups or the reasons differ;

In particular, a schematic representation of the relation between the question items and the specific research objectives explored by the questionnaire was designed by the researcher as it is displayed in Table 4.1.

**Table 4.1:** Distribution of the questionnaire items in relation to the research questions

Question-items	Conceptions relating to museum education	Museum education's contribution to the aims of their National Curriculum	Differentiation of conceptions between those who have carried out projects inside the museum and those who have not	Relation of acquired knowledge and museum uses or design of programs
2	-✓	✓	✓	✓
3	✓	✓	✓	✓
4	✓		✓	✓
5	✓		✓	✓
6	✓	✓		
7	✓		✓	✓
8	✓			✓
9		✓	✓	✓
10	✓	✓	✓	✓
11	✓	✓	✓	✓
12	✓			
13		✓	✓	✓
14		✓	✓	✓
15	✓	✓		✓

#### **4.4 Data analysis**

Data obtained by the questionnaire were analysed both *quantitative* and *qualitative*, regarding the closed or open questions of the questionnaire. The open questions, or parts of the closed questions, which included possible open responses, were grouped according to the topic and analysed qualitatively or quantitatively by the researcher, before a comparison of the results of the two main groups (Greece/Norway) was made.

Moreover, the collected data from the questionnaire were analyzed using Statistical Package for Social Science (SPSS, Version 16.0) for both descriptive and preliminary analyses.

#### **4.5 Reliability and validity**

Reliability and validity are significant factors of an effective research. According to Bell (2010:119) “reliability is the extent to which a test or procedure produces similar results under constant conditions on all occasions”; the researcher’s goal is to check his gathered data with the appropriate scales and tests, and, moreover, to ensure the honesty, deepness and content of the data. Moreover, reliability is synonym with consistency and reproducibility over time (Cohen, Manion & Morrison 2007). Reliability is characterized by stability, equality and internal consistency but, in never perfect; nevertheless, reliability can be estimated but not measured. It is necessary with repeated tests at different times to examine if the results are almost similar each time (Kleven 2002).

On the other hand, validity refers to the connection of the collected data with the research questions; the measurement, therefore, requires a meaning of what it is intended to be investigated. Regarding the validity in the empirical frame, the measurement tools are the criteria; regarding surface validity, the criterion is the response to the subject; moreover, validity of the content includes all the facts of the phenomenon. Lastly, validity of construction refers to whether the concept keeps pace with the chosen theory (Kleven 2002).

# CHAPTER FIVE – RESULTS

## 5.1 Introduction

The data were obtained by the approach of the quantitative use of a questionnaire and are presented below. The questionnaire, which was filled out by 118 kindergarten teachers (Greece: N=59 and Norway: N=59) in the areas of Athens, Tromsø and Oslo provided the researcher with valuable information about kindergarten teachers' conceptions about learning perspectives inside the museum with regard to the kindergarten's curriculum for both Greece and Norway, but also separately. The questionnaire consisted of 15 items. The main variable of analysis was the country of origin (Norway/Greece) but it was also investigated a possible relation between other variables of the questionnaire. An analysis of findings will be both presented for each item separately but also in relation between some of the items. Additionally, findings are presented in tables and different types of figures with graphs and pie-charts using Statistical Package for Social Science (SPSS, Version 16.0).

## 5.2 Results

### Item 1

The questionnaire was filled out by 118 kindergarten teachers (59 Greek and 59 Norwegian); from those, as Table 5.1 displays, 10 were men and 108 were women. More specifically, the responses from Greece were from 1 man and 58 women and the responses from Norway were from 9 men and 50 women.

**Table 5.1:** Gender of the participants (Greece and Norway)

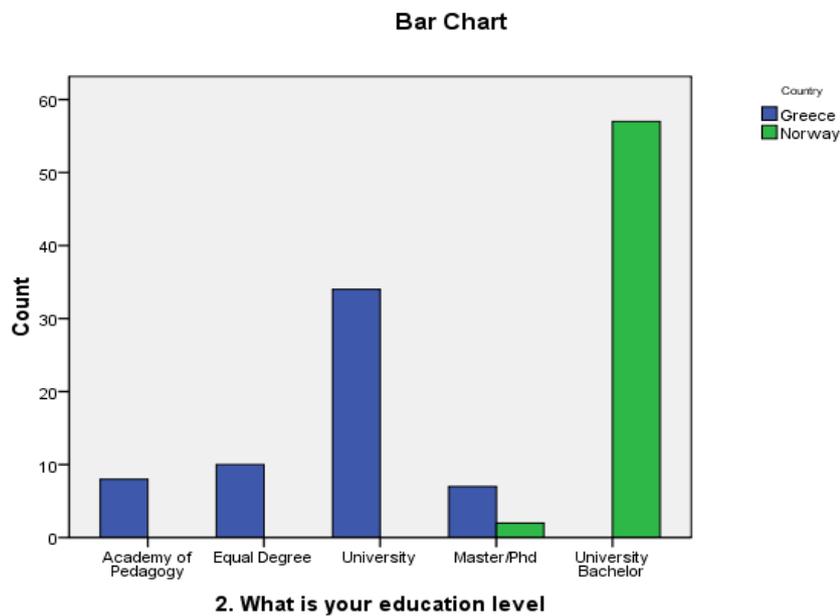
		Country		
		Greece	Norway	Total
1. What is your gender	Male	1	9	10
	Female	58	50	108
	Total	59	59	118

### Item 2

In this item all the kindergarten teachers were asked to provide information about their educational level. Figure 5.1 reports that 34 of the 59 kindergarten teachers (57.6

%) from Greece have a University degree, while 10 of the 59 (16.9 %) Greek participants have an equal with University degree, 8 of the 59 have finished the 2 years studies in Academy of Pedagogy (13.6 %) and 7 of the 59 have a Master/PhD degree (11.9 %). Among the Norwegian colleagues, almost all of the 59 participants (57of the 59) have a University/University College bachelor degree (96.9 %), and only 2 of the 59 participants have a Master/PhD (3.4 %).

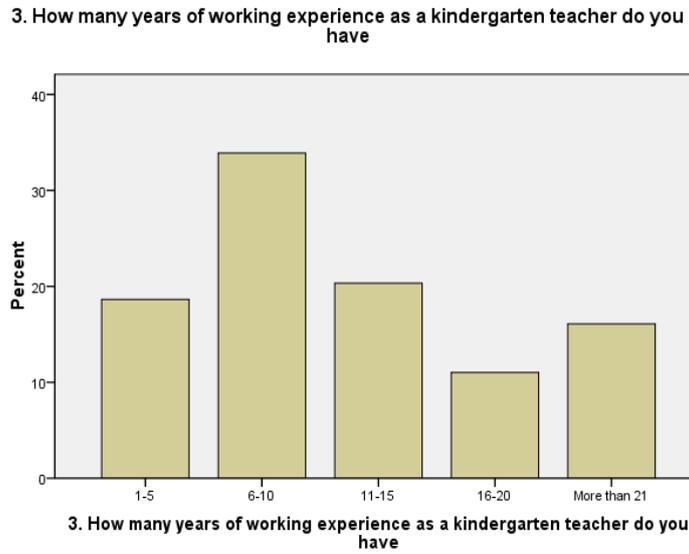
**Figure 5.1:** Educational level of the participants (Greece and Norway)



Item 3

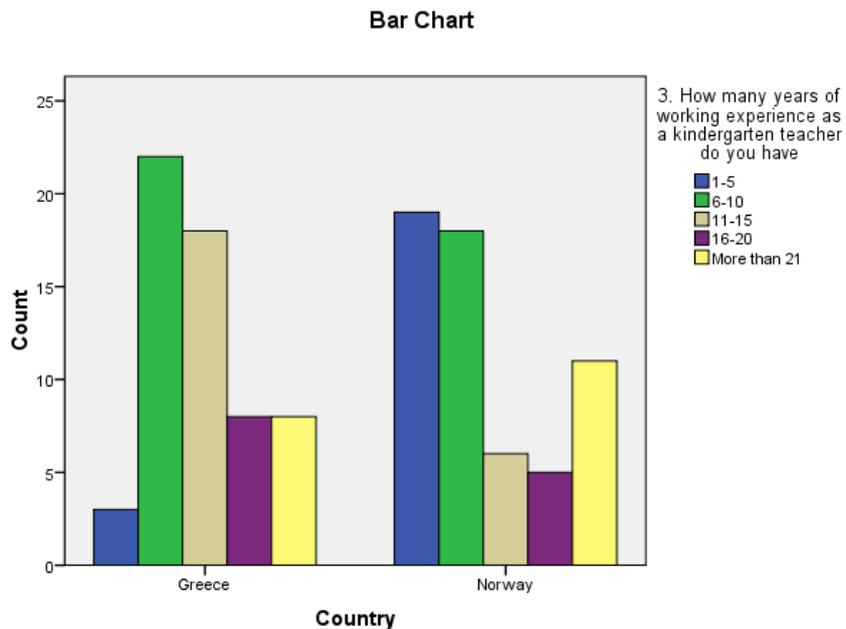
The kindergarten teachers from Greece and Norway were asked in this item of the questionnaire to answer how many years of working experience as kindergarten teachers they have. It was given a scale of 5 answers. In Figure 5.2 it is reported the total percentages of the kindergarten teachers from both countries concerning their working experience. It is displayed that 33.9 % of the total participants have 6–10 years of working experience; 20.3 % have 11–15 years working experience and 18.6 % have 1–5 years working experience as a kindergarten teacher.

**Figure 5.2:** Years of working experience (Greece and Norway)



The years of working experience from the participants from each country separately are displayed in Figure 5.3 where it is reported that 37.3 % of the Greek and 30.5 % of the Norwegian kindergarten teachers have 6–10 years of experience. Additionally, 32.2 % of the Norwegian responses have 1–5 years of experience and 30.5 % of the Greek have 11–15 years of working experience.

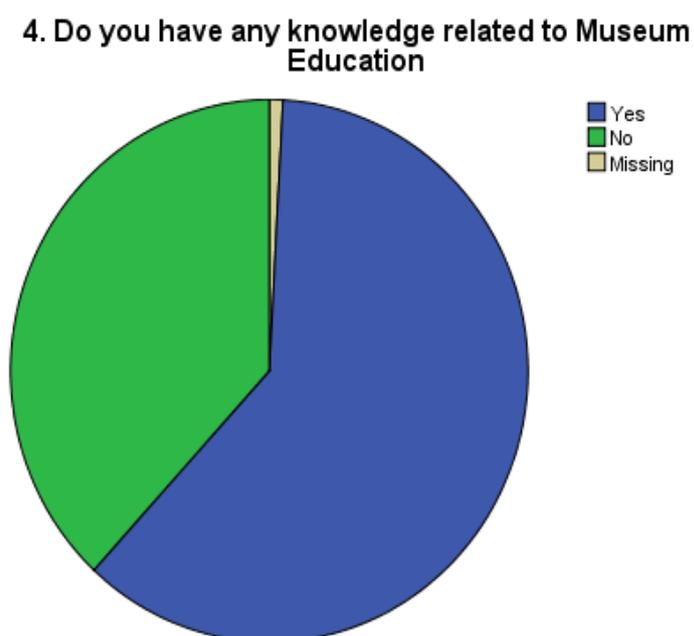
**Figure 5.3:** Years of working experience (Greece/Norway)



#### Item 4

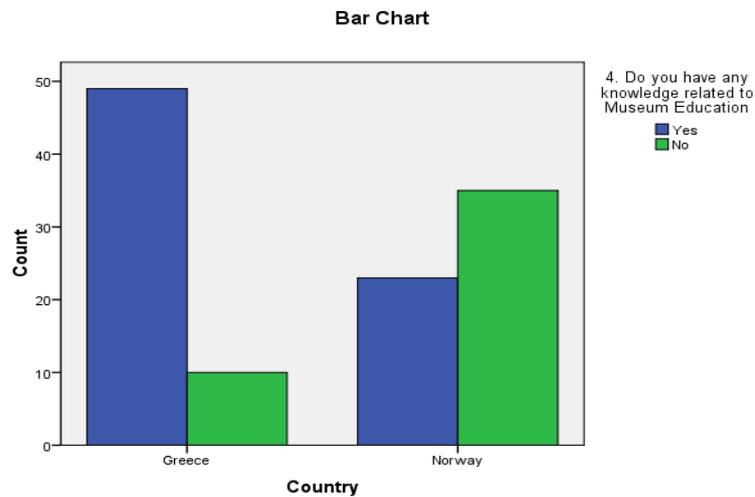
In this questionnaire item, the kindergarten teachers were asked to answer whether they have any knowledge related to learning inside the museum. The graph in Figure 5.4 illustrates the results concerning the responses from the kindergarten teachers from both Greece and Norway, where 61 % of the teachers have answered that they have knowledge about museum education and 38.1 % have given a negative answer (no response= 1).

**Figure 5.4:** Knowledge related to museum education (Greece and Norway)



Nevertheless, in Figure 5.5 it is reported that 49 of the 59 (83.1 %) Greek kindergarten teachers and 23 of the 58 (39 %) of the Norwegian have answered that they have knowledge related to museum education (missing 1). Additionally, 10 of the 59 Greek kindergarten teachers (16.9 %) and 35 of the 58 (59.3 %) Norwegian teachers have answered that they haven't any knowledge regarding museum education (missing 1 answer).

**Figure 5.5:** Comparison between Greece and Norway concerning acquired knowledge related to museum education



Furthermore, the item 4 was used to investigate if there is any correlation between having previous knowledge about learning in the museum and questionnaire item 13 which was asking if they had designed and carried out educational programs inside the museum. The results are reported in Table 5.2.

**Table 5.2:** Correlation between acquired knowledge related to learning inside the museum and kindergarten teachers as educators (Norway and Greece)

		4. Knowledge related to Museum education	13. Kindergarten teachers-educators
4. Knowledge related to Museum education	Pearson Correlation	1,000	,271**
	Sig. (2-tailed)		,003
	N	117,000	116
13. Kindergarten teachers-educators	Pearson Correlation	,271**	1,000
	Sig. (2-tailed)	,003	
	N	116	117,000

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The relationship between acquired knowledge about museum education and self-educating inside the museum was investigated using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of

the assumptions of normality, linearity and homoscedasticity. There was a correlation between the two variables,  $r=0.27$ ,  $n=116$ ,  $p<.05$ , with acquired knowledge about museum education associated with the kindergarten teachers designing and carrying out educational programs in the museum for their kindergarten children.

Additionally, Table 5.3 indicates a difference between the two groups of kindergarten teachers (Greek/Norwegian) concerning the relationship between acquired knowledge about learning inside the museum and kindergarten teachers designing and carrying out educational programs in the museum for their kindergarten children.

**Table 5.3:** Correlation between countries of origin (Norway/Greece), acquired knowledge related to museum education and kindergarten teachers as educators

Country			4. Knowledge related to museum education	13. Kindergarten teachers-educators
Greece	4. Knowledge related to museum education	Pearson Correlation	1	,228
		Sig. (2-tailed)		,085
		N	59	58
	13. Kindergarten teachers-educators	Pearson Correlation	,228	1
		Sig. (2-tailed)	,085	
		N	58	58
Norway	4. Knowledge related to museum education	Pearson Correlation	1	,260*
		Sig. (2-tailed)		,048
		N	58	58
	13. Kindergarten teachers-educators	Pearson Correlation	,260*	1
		Sig. (2-tailed)	,048	
		N	58	59

\*. Correlation is significant at the 0.05 level (2-tailed).

The relationship between acquired knowledge about museum education and self-educating inside the museum for the two groups separately (Greece/Norway) was investigated using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. Concerning Norway, there was a correlation between

the two variables,  $r=0.26$ ,  $n=58$ ,  $p<.05$ , with perceived of knowledge about museum education associated with kindergarten teachers as educators for programs for their classroom children inside the museum. On the other hand, concerning Greece,  $r=1.22$ ,  $n=59$ ,  $p>.05$  with acquired knowledge about museum education not associated with self-educating programs for their classroom children inside the museum.

#### Item 5

Here the kindergarten teachers were asked to tick one or more pre-given answers about how they have acquired knowledge regarding museum education (for those who had answered *Yes* in the previous item 4). Table 5.4 provides information about the total picture of the nature of the input. It is seen that 56 % of the Norwegian kindergarten teachers which answered that they have knowledge about learning inside the museum have acquired this knowledge from their graduate studies, while only 12.7 % of their Greek colleagues have acquired this knowledge from the same source. Table 5.4 also illustrates that 38 % of the Greek kindergarten teachers have acquired knowledge about museum education from a training program<sup>84</sup>, while 33.8 % of them had attended seminars concerning this subject.

It is worth mention that this item had as an option of the answer the *Other*. It is displayed that 9.9 % of the Greek kindergarten teachers answered that that had acquired knowledge about museum education in another way than those given. On the other hand, the percentage on the same answer for the Norwegian kindergarten teachers is 20 %. According to the comments provided in a space for that reason, the teachers had gained knowledge about learning inside the museum *from personal interest, discussion with the employs of the museums, attending practice programs offered by the museums, material given by museums, reading relevant articles, conversation with work colleagues or museum's personal and from further academic studies on the subject*.

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<sup>84</sup>This training program can be either the one mentioned in page 71 or any other.

**Table 5.4:** Classification of knowledge about learning in the museum  
(Greece/Norway)

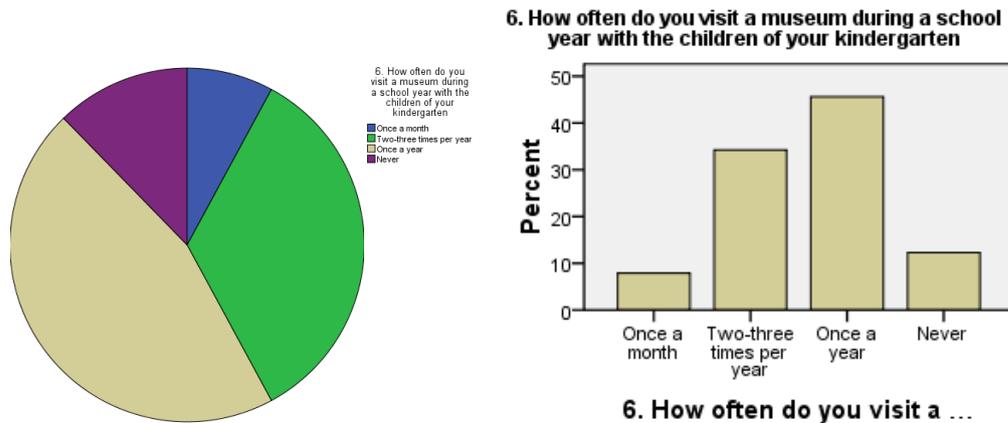
Country			Responses		
			N	Percent	Percent of Cases
Greece	Acquired knowledge	5.1 Graduate Studies	9	12,7%	18,8%
		5.2 Seminar	24	33,8%	50,0%
		5.3 Conference	4	5,6%	8,3%
		5.4 Training	27	38,0%	56,2%
		5.5 Other	7	9,9%	14,6%
		Total	71	100,0%	147,9%
Norway	Acquired knowledge	5.1 Graduate Studies	14	56,0%	66,7%
		5.2 Seminar	3	12,0%	14,3%
		5.3 Conference	2	8,0%	9,5%
		5.4 Training	1	4,0%	4,8%
		5.5 Other	5	20,0%	23,8%
		Total	25	100,0%	119,0%

Item 6

The questionnaire item 6 was examined independently for each country and for the total amount of the responses from both groups. Moreover, it was examined whether there is any significant difference between the frequencies of use of the museum by the kindergarten teachers from the two countries.

The graphs in Figure 5.6 and 5.7 report that 43 % of kindergarten teachers from both Greece and Norway used the museum *once a year*; secondly, 33 % had used it *two-three times per year*, 11 % had answered that had *never* used the museum before, and, lastly, 8 % answered that they had used it *once a month*.

**Figures 5.6-5.7:** Frequency of museum uses during a school year (Greece and Norway)



In particular, Figures 5.8 and 5.9 present the frequency of visits of the kindergarten teachers for each country separately. It is reported that 50.8 % of the Greek kindergarten teachers answered that they had visited a museum *once a year* with their kindergarten children, while 37.3 % of the Norwegians gave the same answer. Furthermore, 37.3 % of the Greek and 28.8 % of the Norwegian participants answered that they visit museums *two-three times per year*. The answer *once a month* was given by 8.5 % of the Greek and 6.8 % of the Norwegian kindergarten teachers. Lastly, 3.4 % from Greece and 20.3 % from Norway gave the answer *never*.

**Figures 5.8-5.9:** Frequency of museum uses during a school year (Greece/Norway)

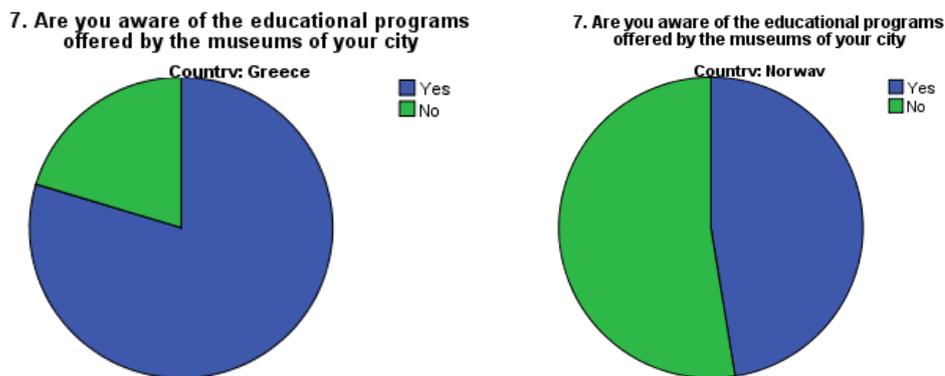


Item 7

Here the kindergarten teachers were asked to state whether they were aware of the offered museum educational programs in their cities. As it is displayed from the

graphs in Figures 5.10 and 5.11, a high percentage of Greek kindergarten teachers (79.7 %) are aware of the offered museum educational programs of their city, while the corresponding percentage of their Norwegian colleagues is 47.5 %. In the contrast, the answer *No* was given by 20.3 % of the Greek kindergarten teachers and 52 % of the Norwegian ones. That indicates that more than half of the Norwegian kindergarten teachers which answered to the specific question were not aware of the offered museum educational programs of their city.

**Figures 5.10-5.11:** Awareness of the offered museum educational programs (Greece/Norway)



Additionally it was investigated whether there is any correlation between the country of origin and the awareness of museum offered program. The Table 5.5 indicates that there is a correlation between the country and the awareness of the offered museum educational programs from the kindergarten teachers but it is not significant. The relationship between country and awareness of the offered museum programs was investigated using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There was a correlation between the two variables,  $r=0.33$ ,  $n=118$ ,  $p<0.05$  with country of origin associated with awareness of offered museum educational programs.

**Table 5.5:** Correlation between country of origin and the awareness of offered museum educational programs

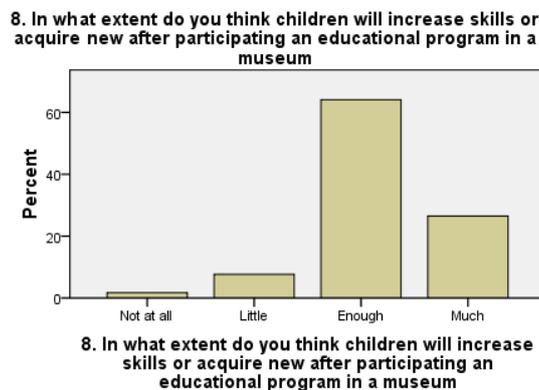
		Country	7. Are you aware of the educational programs offered by the museums of your city
Country	Pearson Correlation	1,000	,335**
	Sig. (2-tailed)		,000
	N	118,000	118
7. Are you aware of the educational programs offered by the museums of your city	Pearson Correlation	,335**	1,000
	Sig. (2-tailed)	,000	
	N	118	118,000

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Item 8**

In item 8 kindergarten teachers were asked to rate on a given scale in what extent children will increased skills or acquired new skills after participating in an educational program in a museum. Figure 5.12 presents the total percentage of all the kindergarten teachers from both countries.

**Figure 5.12:** To what extent will children increase their skills or acquire new after participating in a museum educational program (both countries)



According to Figure 5.12 above, from 117 answers of 118 (missing 1), the answer with the higher percentage (63.6 %) was that children will increase/acquire skills in an

*Enough* extent, 26.3 % of the responses answered *Much*, 7.6 % gave the answer *Little*; lastly, 1.7 % answered *Not at all*.

Table 5.6 displays the responses from each country separately related to the same questionnaire item 8 in which the kindergarten teachers of both countries were asked to what extent will children increase their skills or acquire new after participating in a museum educational program.

**Table 5.6:** To what extent will children increase their skills or acquire new after participating in a museum educational program (Greece/Norway)

		To what extent will children increase their skills/acquire new				
		Not at all	Little	Enough	Much	Total
Country <b>Greece</b>	Count	0	3	41	14	58
	% within Country	0,0%	5,2%	70,7%	24,1%	100,0%
	% within To what extent will children increase their skills/acquire new	0,0%	33,3%	54,7%	45,2%	49,6%
<b>Norway</b>	Count	2	6	34	17	59
	% within Country	3,4%	10,2%	57,6%	28,8%	100,0%
	% within To what extent will children increase their skills/acquire new	100,0%	66,7%	45,3%	54,8%	50,4%
Total	Count	2	9	75	31	117
	% within Country	1,7%	7,7%	64,1%	26,5%	100,0%
	% within To what extent will children increase their skills/acquire new	100,0%	100,0%	100,0%	100,0%	100,0%

Here it is evident that 70.7 % of the Greek responses and 57.6 % of the Norwegian responses believe that children will increase their skills/acquire new skills at *enough* extent. Moreover, as a total positive attitude towards educational programs in museums concerning the outcome of increasing/acquiring skills (*enough/much*), the results show that 94.8 % of the Greek kindergarten teachers and 86.4 % of the kindergarten teachers from Norway are positioned positively.

### Item 9

In this item kindergarten teachers from Greece and Norway were asked to answer which field of their national curriculum (see Chapter 2, pp. 51- 55) they think that could be related to a museum visit by tricking in a table included their national curriculum fields.

**Table 5.7:** Fields of the National Curriculum associated with the museum/Greece

Country	Responses			
	N	Percent	Percent of Cases	
Greece curriculum fields	9.1 Language	49	21,5%	83,1%
	9.2 Mathematics	40	17,5%	67,8%
	9.3 Environment	51	22,4%	86,4%
	9.4 Creation and expression	55	24,1%	93,2%
	9.5 Computers	33	14,5%	55,9%
	Total	228	100,0%	386,4%

The Greek kindergarten teachers tricked mostly more than one field. In Table 5.7 above we can see that 55 of the 59 participants (93.2 %) answered that *Creation and Expression* is the field that can be related to a museum (with 24.1 % among the 5 fields). Secondly, 51 of the 59 participants answered that *Environment* (with 22.4 % among the 5 fields) can be related to a museum. Moreover, 49 of the 59 responses (83.1 %) think that *Language* can also be related (21.5 % among the 5 fields); then follows *Mathematics* (67.8 % and 17.5 % among the five fields of the Greek National Curriculum for kindergarten). Lastly, 33 of the 59 participants (55.9 %) believe that *Computers* can be related to a museum (14.5 % among the 5 fields).

Furthermore, in Table 5.8 it is reported that Norwegian kindergarten teachers think that *Art and Creativity* is the field of their National Curriculum that can be mostly related with the museum (18.4 %). The next field of their curriculum that has the highest percentage is *Local Community and Society* with 17.4 %. The next field that is

in the third place of the table is *Nature, Environment and Techniques* with 16.5 %; in the fourth place it is *Communication, Language and Text* (15.2 %). The fields that were tricked less times are *Ethics, Religion and Philosophy* (14.5 %), *Numbers, Spaces and Shapes* (11.9 %) and, lastly, *Body Movement and health* (6.1 %). It should be mentioned that the Norwegian kindergarten teachers tricked mostly more than one field, as the Greek kindergarten teachers had also done.

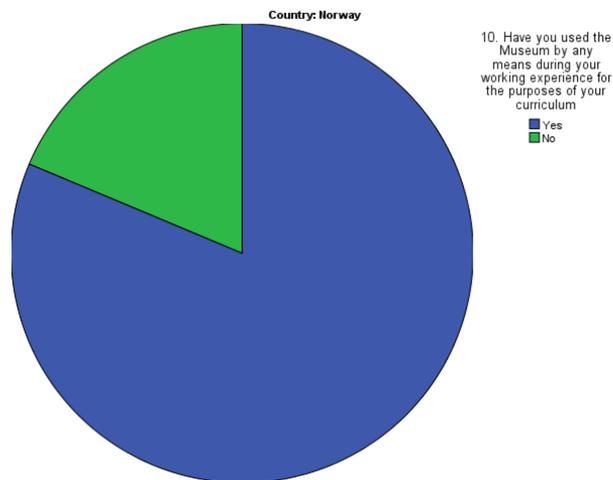
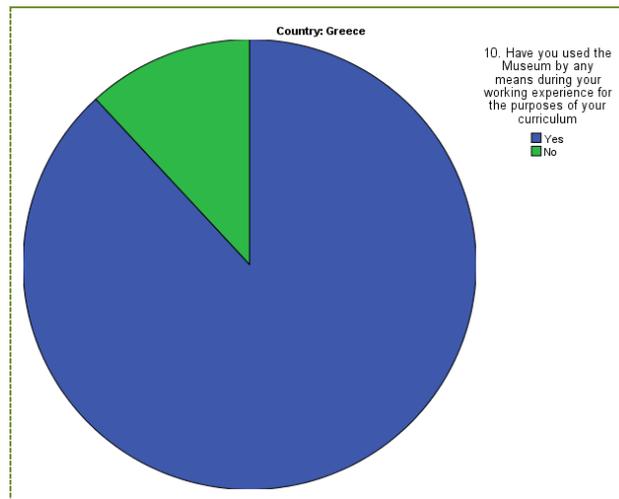
**Table 5.8:** Fields of the National Curriculum associated with the museum/Norway

Country	Responses		
	N	Percent	Percent of Cases
Norway Curriculum fields	47	15,2%	81,0%
norway 9.1 Communication, language and text			
9.2 Body, movement and health	19	6,1%	32,8%
9.3 Art, culture and creativity	57	18,4%	98,3%
9.4 Nature, environment and techniques	51	16,5%	87,9%
9.5 Ethics, religion and philosophy	45	14,5%	77,6%
9.6 Local community and society	54	17,4%	93,1%
9.7 Numbers, spaces and shapes	37	11,9%	63,8%
Total	310	100,0%	534,5%

#### Item 10

The graphs in Figures 5.13 and 5.14 it is provided information on item 11, which asked the kindergarten teachers if they have used the museum during their working experience by any means. It is evident that 88.1 % of the Greek kindergarten teachers answered *Yes* and 11.9 % answered *No*. On the other hand, 81.4 % of their Norwegian colleagues answered also *Yes* and 18.6 % answered *No*. It is remarkable that the positive answer from both countries is in very high percentage which indicates that kindergarten teachers have a general positive attitude towards the use of the museum.

**Figures 5.13-5.14:** Museum uses (Greece/Norway)



Additionally, it was examined if previous knowledge about learning inside the museum can be related with the use of the museum. The analysis illustrated in Table 5.9, concerning the Greek kindergarten teachers, indicates that they use the museum in a high percentage (93.9 % for those who had answered that they have knowledge and 60 % among those who had answered that they had not) and this can be related to previously acquired knowledge.

Furthermore, for the Norwegian kindergarten teachers, the use of the museum is high for those who had answered that had no previous knowledge (82.9 %), while 17,1 % of those who had no knowledge answered *No* in the question about the use of the museum.

**Table 5.9:** Museum uses in relation to acquired knowledge about museum education

Country				10. Museum uses for the purposes of the curriculum		
				Yes	No	Total
Greece	4. Knowledge related to museum education	Yes	Count	46	3	49
			% within 4.	93,9%	6,1%	100,0%
	No	Count	6	4	10	
		% within 4.	60,0%	40,0%	100,0%	
	Total		Count	52	7	59
			% within 4.	88,1%	11,9%	100,0%
Norway	4. Knowledge related to museum education	Yes	Count	18	5	23
			% within 4.	78,3%	21,7%	100,0%
	No	Count	29	6	35	
		% within 4.	82,9%	17,1%	100,0%	
	Total		Count	47	11	58
			% within 4.	81,0%	19,0%	100,0%

More specifically, as it is presented in Table 5.8, 18 of the 23 Norwegian kindergarten teachers who have acquired knowledge use the museum for the purposes of their kindergarten curriculum while 29 of the 35 who have no knowledge, use also the museum for the same purposes.

Furthermore, Table 5.10 indicates that there is a positive, medium strength, relationship between item 4 (*Do you have any knowledge about museum education*) and item 10 (*Have you used the museum by any means during your working experience for the purposes of your curriculum*) concerning the kindergarten teachers from Greece ( $r=0.39$ ,  $n=59$ ,  $p < .05$ ) but not for the ones from Norway ( $r=-0.57$ ,  $n=58$ ,  $p>.05$ ). Therefore, knowledge and uses of museum are positively related with each other concerning the Greek kindergarten teachers but not for their Norwegian colleagues.

**Table 5.10:** Correlation between country, acquired knowledge about museum education and museum uses

Country			4. Knowledge related to museum education	10. Museum uses/curriculum relation	
Greece	4. Knowledge related to museum education	Pearson Correlation		1,393**	
		Sig. (2-tailed)		,002	
		N	59	59	
	10. Museum uses/curriculum relation	Pearson Correlation	,393**		1
		Sig. (2-tailed)	,002		
		N	59	59	
Norway	4. Knowledge related to museum education	Pearson Correlation	1	-,057	
		Sig. (2-tailed)		,669	
		N	58	58	
	10. Museum uses/curriculum relation	Pearson Correlation	-,057		1
		Sig. (2-tailed)	,669		
		N	58	58	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Item 11

This item comes as an outcome from the previous questionnaire item 10 (if they had answered *Yes*). The kindergarten teachers from both Greece and Norway were asked to mention the ways with which they have used museums before. The researcher had given examples of those possible uses (visits, tours, participation in educational museum programs, visual material, etc.).

Based on the answers of the participants from both countries, the researcher made the following 5 categories:

- ❖ Visit

- ❖ Tour
- ❖ Educational program
- ❖ Virtual material
- ❖ Project related to the curriculum

It should be mentioned that in some cases, the responses concerned more than one category and they have been included in the analysis. As it is reported in Table 5.11, the larger proportion of the Greek kindergarten teachers answered that they have used the museum in relation with curriculum project made in the kindergarten (28.2 %) and by visits (27.3 %). The Norwegian kindergarten teachers answered that they have used the museum mostly for visits (38.6 %) and for projects related with their kindergarten curriculum (31.8 %). The use of visual material is 15.5 % for the Greek and only 4.5 % for the Norwegian kindergarten teachers.

**Table 5.11:** Specification of museum uses (Greece/Norway)

Country/museum uses			Responses		
			N	Percent	Percent of Cases
Greece	Museum uses	11.1 Visit	30	27,3%	56,6%
		11.2 Tour	13	11,8%	24,5%
		11.3 Educational programs	19	17,3%	35,8%
		11.4 Virtual material	17	15,5%	32,1%
		11.5 Project related to the curriculum	31	28,2%	58,5%
		Total	110	100,0%	207,5%
Norway	Museum uses	11.1 Visit	34	38,6%	72,3%
		11.2 Tour	11	12,5%	23,4%
		11.3 Educational programs	11	12,5%	23,4%
		11.4 Virtual material	4	4,5%	8,5%
		11.5 Project related to the curriculum	28	31,8%	59,6%
		Total	88	100,0%	187,2%

Item 12

In this questionnaire item, the kindergarten teachers were asked about the reasons why they don't visit museums/attend educational museum program more often with the children of their kindergarten. Firstly, there are displayed the results concerning the total responses of the teachers from the 2 groups together (Table 5.12). Secondly, Table 5.13 presents the results concerning the responses of each country separately.

**Table 5.12:** Reasons for not visiting museums/attending programs (Greece and Norway)

		Responses		
		N	Percent	Percent of Cases
Reasons for not visiting/attending	12.1 Lack of offers from the museums	18	7,7%	15,5%
	12.2 Economy	53	22,7%	45,7%
	12.3 Lack of information from the museums	57	24,5%	49,1%
	12.4 Organization	47	20,2%	40,5%
	12.5 Lack of personal interest	9	3,9%	7,8%
	12.6 Security reasons for children	19	8,2%	16,4%
	12.7 Other reason	30	12,9%	25,9%
	Total	233	100,0%	200,9%

Based on all the responses from both Greece and Norway, *lack of information from the museums* with 24.5 % is the reason with the highest percentage among all the kindergarten teachers. In the second place is *economy* with 22.7 %, third is *organization* with 20.2 %, and fourth is 'other reason' with 12.9 %. In the fifth place is the reason of *security for the children*, sixth is *lack of offers from museums* (7.7 %) and last is *lack of personal interest* (3.9 %).

**Table 5.13:** Reasons for not visiting museums/attending programs (Greece/Norway)

Country/Reasons for not visiting/attending		Responses			
		N	Percent	Percent of Cases	
Greece	Reasons for not visiting/attending	12.1 Lack of offers from the museums	3	2,9%	5,2%
		12.2 Economy	25	23,8%	43,1%
		12.3 Lack of information from the museums	21	20,0%	36,2%
		12.4 Organization	21	20,0%	36,2%
		12.5 Lack of personal interest	4	3,8%	6,9%
		12.6 Security reasons for children	16	15,2%	27,6%
		12.7 Other reason	15	14,3%	25,9%
		Total	105	100,0%	181,0%
Norway	Reasons for not visiting/attending	12.1 Lack of offers from the museums	15	11,7%	25,9%
		12.2 Economy	28	21,9%	48,3%
		12.3 Lack of information from the museums	36	28,1%	62,1%
		12.4 Organization	26	20,3%	44,8%
		12.5 Lack of personal interest	5	3,9%	8,6%
		12.6 Security reasons for children	3	2,3%	5,2%
		12.7 Other reason	15	11,7%	25,9%
		Total	128	100,0%	220,7%

Percentages and totals are based on respondents.

From the results reported in Table 5.13, the reason which is has the highest percentage among the Greek kindergarten teachers is *economy* (23.8 %), while among the Norwegians is the *lack of information from museums* (28.1 %). For the Greek kindergarten teachers *lack of information from museums* and *organization* is placed in the second position among the reasons of not attending more often programs in museums or visiting (20 % in each case), while for the Norwegians is *economy* (21.9 %); closer, in the third place for the Norwegians is *organization* (20.3 %). It should be mentioned that for the 2 groups, *lack of personal interest* has low percentages (3.8 % for the Greeks and 3.9 % for Norwegians); the reason of *security of children* among the Greek kindergarten teachers has 15.2 %, while the same reason has 2.3 % among the Norwegians. Lastly, another reason which should be remarked is *the lack of offers*

from museums; 2.9 % of the Greek kindergarten teachers chose that reason while 11.7 % of the Norwegian had chosen the same reason.

Additionally, in this item the kindergarten teachers could answer *Other*. We can see that 14.3 % of the Greek and 11.7 % of the Norwegian kindergarten teachers gave another reason from the given ones for not visiting/attending programs more often in museums. In this *Other* category some of the answers given by Greek kindergarten teachers were: *limited permissions for excursions from the Ministry of Education*<sup>85</sup> *for kindergartens (mentioned four times), distance between kindergarten and museums (mentioned two times), lack of interest from the parents or the colleagues, programs in the museums cannot fit with the opening time of the kindergarten, lack of information from Ministry of Education about learning inside the Museum, lack of existence of information office about museum offers, enough visits.*

On the other hand, some of the answers by the Norwegian kindergarten teachers were: *not many programs offered for kindergarten children (mentioned four times), lack of knowledge about what can be done inside a museum (mentioned three times), use of public transportation for these excursions can be problematic and stressful for the kindergarten teachers (mentioned two times), has not been priority, large number of children participating in programs can be problem for accompanied teachers, much to do in a kindergarten that there is no time for other things.*

### Item 13

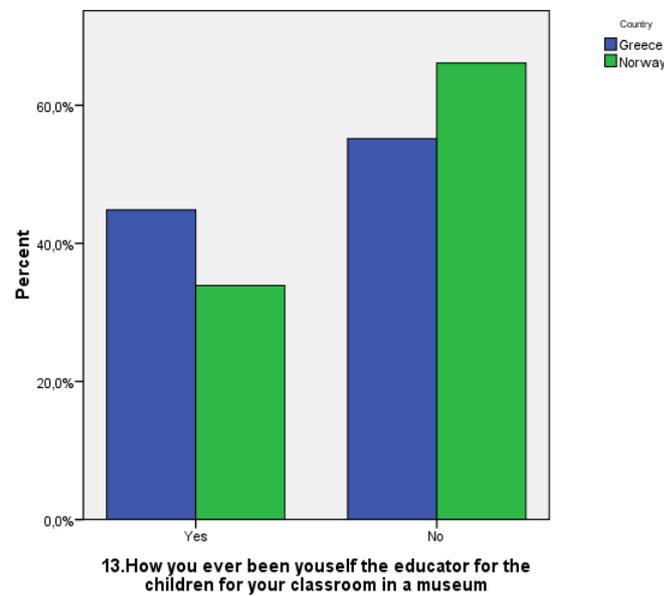
In this item, the teachers were asked whether they have been self-educators for programs carried out inside the museum. Their responses, depending on the country of origin are displayed schematically in Figure 5.15.

Figure 5.15 illustrates that approximately 45 % of the Greek and approximately 35 % of the Norwegian kindergartens teachers have answered *Yes* to the question. The negative answers were higher for Norwegian kindergarten teachers (around 65 %) than the Greek (around 55 %).

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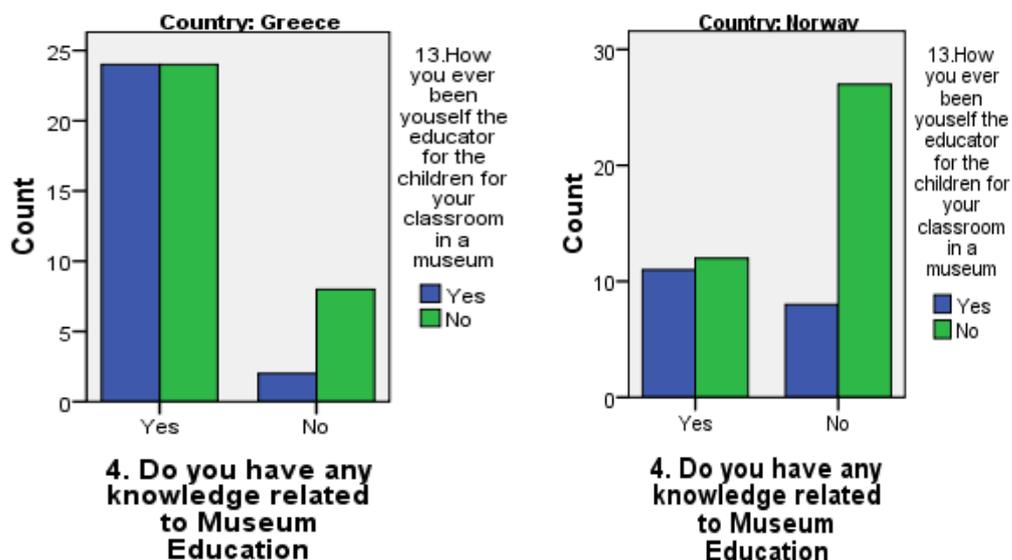
<sup>85</sup> The Greek Ministry of Education permits one excursion per month for kindergartens, according to Article 200/98 for the operation of the public kindergarten, [http://www.pi-schools.gr/preschool\\_education/nomothesia/proedr\\_200\\_98.pdf](http://www.pi-schools.gr/preschool_education/nomothesia/proedr_200_98.pdf).

**Figure 5.15:** Kindergarten teachers as educators in programs held inside museums for their kindergarten children (Greece/Norway)



Furthermore, item 4 (*Do you have any knowledge about learning in the museum*) was examined with item 13 to investigate whether kindergarten teachers who had obtained previously knowledge about museum education, had also declared in a higher percentage also having been self-educators inside the museum as it is presented in Figures 5.16 and 5.17.

**Figures 5.16-5.17:** Relation between acquired knowledge about museum education and kindergarten teachers as educators in museum programs for their kindergarten children (Greece/Norway).



Figures 5.16 and 5.17 it is illustrated that 24 of the 28 Greek kindergarten teachers (50 %), who had answered that they had previously acquired knowledge related to museum education, answered that they have organized and carried out programs for the children of their kindergarten inside the museum in the past. But also 24 of the 28 (50 %) answered *No* to the same question (item 13). Furthermore, 27 of the 35 kindergarten teachers from Norway who had answered on item 4 *No*, have also answered *No* to questionnaire item 13; only 8 of the 35 kindergarten teachers who had no previous knowledge in relation to museum education had designed and carried out programs for their kindergarten children inside a museum and in relation to their National Curriculum.

Lastly, item 13 was examined in comparison with questionnaire item 3 (years of working experience) in order to investigate whether years of experience affect on designing and carrying out programs inside the museum by kindergarten teachers for their kindergarten children. According to the results provided in Table 5.14, 41 of the 71 participants who answered ‘*No*’ to questionnaire item 13 (*‘have you ever been yourself educator of a designed program for your classroom children carried out in a museum?’*) had 1-10 years of working experience while 30 of the 71 participants who answered also *No* to the same question (item 13), had 11 to more than 21 years of working experience.

**Table 5.14:** Comparison of working experience and kindergarten teachers as educators (Norway and Greece)

		13. Educator		
		Yes	No	Total
3. Years of working experience	1-5	6	16	22
	6-10	15	25	40
	11-15	12	11	23
	16-20	5	8	13
	More than 21	8	11	19
	Total	46	71	117

Item 14

In this item, the kindergarten teachers of both countries who answered that they have been self-educators for programs inside museums for the children of their kindergartens were asked to mention with which fields of their curriculum or projects were those programs related to. The researcher placed the answers into categories (5 for Greece and 7 for Norway) according to the fields of their National Curriculum (see Chapter 2, pp. 51-55).

Tables 5.15 and 5.16 indicate that kindergarten teachers from both countries have used mostly the museum by making projects related with the field of nature and environment (*Environment/Greece: 52.6 %*, *Nature, Environment and Techniques/Norway: 32.6 %*). Another field of their curriculum, in which the kindergarten teachers from both countries have used mostly in the museum, is the field which is related to *Art and Creativity (Creation and Expression/Greece: 31.6 %*, *Art, Culture and Creativity/Norway: 19.6 %*). Less used was the field of *Computers (2.6 %)* from the Greek curriculum for kindergarten and the field of *Body, Movement and Health (4.3 %)* and *Communication, Language and Text (4.3 %)* from the Norwegian curriculum for the kindergarten.

**Table 5.15:** Fields of the National Curriculum related to kindergarten teachers' designed programs in the museum/Greece

Country/ self-educator	Responses		
	N	Percent	Percent of Cases
Greece Fields 13.1 Language	2	5,3%	7,7%
13.2 Mathematics	3	7,9%	11,5%
13.3 Environment	20	52,6%	76,9%
13.4 Creation and expression	12	31,6%	46,2%
13.5 Computers	1	2,6%	3,8%
Total	38	100,0%	146,2%

**Table 5.16:** Fields of the National Curriculum related to kindergarten teachers' designed programs in the museum/Norway

Country/self-educator		Responses		
		N	Percent	Percent of Cases
Norway	Fields 13.1 Communication, language and text	2	4,3%	10,0%
	13.2 Body, movement and health	2	4,3%	10,0%
	13.3 Art, culture and creativity	9	19,6%	45,0%
	13.4 Nature, environment and techniques	15	32,6%	75,0%
	13.5 Ethics, religion and philosophy	4	8,7%	20,0%
	13.6 Local community and society	8	17,4%	40,0%
	13.7 Number, spaces and shapes	6	13,0%	30,0%
	Total	46	100,0%	230,0%

Item 15

In this last item of the questionnaire the kindergarten teachers were asked to give their opinions about children's benefits after participating in an educational museum program. This question was open, in order that the kindergarten teachers from both countries could write in their own words their concepts about learning inside the museum. Based on the answers of the participants from both countries, the researcher made 8 categories.

Those categories concerning the benefits after participating in an educational program in a museum for the children are:

- ✓ Visual literacy/arts (critical thinking, motivation, creativity or intellectual provocation)

- ✓ Connection past with present/'cultural capital' (historical identity)
- ✓ Get to know the museum/attend educational programs
- ✓ Entertainment (enjoyment, inspiration, interest)
- ✓ Skills/Multiple Intelligences (like problem solving, communication, social, practical, verbal skills etc.)
- ✓ Experiential learning/Interacting with the exhibits
- ✓ Connection with the curriculum
- ✓ Constructivist learning/New experiences

Based on these categories, the results were analyzed for all the kindergarten teachers for both Greece and Norway and also separately to examine which are the concepts of all the kindergarten teachers about the benefits of educational programs in museum for kindergarten children; furthermore, it was examined if there was any differentiation between the two countries. Many of the answers included more than one category.

Accordingly, Table 5.17 reports that the most popular answer for all the kindergarten teachers was that children acquire new skills and can exercise their individual abilities by attending a program in a museum (20.3 %). Secondly, the kindergarten teachers from Greece and Norway think that children will acquire new experiences, and learn in a constructivist way (17.1 %). Moreover, kindergarten teachers think that children will have opportunities after attending a program inside a museum to get to know art and train their visual literacy with observation, learning to use their sensory criterion and their fantasy (14.3 %).

**Table 5.17:** Kindergarten teachers' conceptions about the benefits for children from attending programs in museums (both Greece and Norway)

		Responses		
		N	Percent	Percent of Cases
Benefits	15.1 Visual literacy/arts/	45	14,3%	42,1%
	15.2 Connection present with past/cultural capital	34	10,8%	31,8%
	15.3 Get to know the Museum/attend educational programs	34	10,8%	31,8%
	15.4 Entertainment	18	5,7%	16,8%
	15.5 Skills/Multiple Intelligences	64	20,3%	59,8%
	15.6 Experiential learning/interacting with the exhibits	46	14,6%	43,0%
	15.7 Connection with the curriculum	20	6,3%	18,7%
	15.8 Constructivist learning/New experiences	54	17,1%	50,5%
	Total	315	100,0%	294,4%

Finally, in Table 5.18 it is displayed the comparison between the conceptions of the Greek and the Norwegian kindergarten teachers concerning the benefits for the children after their participation in educational programs in museum. From the results it is evident that Greek and Norwegian kindergarten teachers agree that children will acquire new skills and exercise their intelligences (20.2 %: Greece and 20.4 %: Norway). Additionally, Greek kindergarten teachers think that children will expand their visual literacy (17.3 %), while Norwegians think that children will acquire new experiences (18.4 %). Moreover, 16.7 % of the Greek kindergarten teachers believe that children will interact with the museum exhibits and learn through experiential interaction; on the other hand, 13.6 % of the Norwegian kindergarten teachers think that children will have the opportunity to get familiar with the museum and participate in programs inside the museum.

**Table 5.18:** Kindergarten teachers' conceptions about the benefits for children from attending programs in museums (Greece/Norway)

		Responses		
		N	Percent	Percent of Cases
Country				
Greece	15.1 Visual literacy/arts/	29	17,3%	50,0%
	15.2 Connection present with past/cultural capital	23	13,7%	39,7%
	15.3 Get to know the Museum/attend educational programs	14	8,3%	24,1%
	15.4 Entertainment	4	2,4%	6,9%
	15.5 Skills/Multiple Intelligences	34	20,2%	58,6%
	15.6 Experiential learning/interacting with the exhibits	28	16,7%	48,3%
	15.7 Connection with the curriculum	9	5,4%	15,5%
	15.8 Constructivist learning/New experiences	27	16,1%	46,6%
	Total	168	100,0%	289,7%
Norway	15.1 Visual literacy/arts/	16	10,9%	32,7%
	15.2 Connection present with past/cultural capital	11	7,5%	22,4%
	15.3 Get to know the Museum/attend educational programs	20	13,6%	40,8%
	15.4 Entertainment	14	9,5%	28,6%
	15.5 Skills/Multiple Intelligences	30	20,4%	61,2%
	15.6 Experiential learning/interacting with the exhibits	18	12,2%	36,7%
	15.7 Connection with the curriculum	11	7,5%	22,4%
	15.8 Constructivist learning/New experiences	27	18,4%	55,1%
	Total	147	100,0%	300,0%

# CHAPTER SIX – DISCUSSION AND CONCLUSIONS

## 6.1 Discussion

The main aim of the present study was to gain insights into the concepts of some kindergarten teachers from Norway and Greece concerning learning in the museum and the relation between museum uses and their national curriculum for kindergarten. Additionally, another purpose was to compare the views and concepts of the Norwegian and Greek kindergarten teachers about the use of the museum as a learning arena for kindergarten in relation to information obtained by the research.

In Chapter 5, an analysis of the data obtained by the research subjects was undertaken. In this Chapter, the researcher proceeds to the discussion of her results as they were displayed previously, taking into account whenever necessary, the review of the relevant literature as presented in Chapter 2 and previous research in Chapter 1. The discussion will be related to the main research questions of this study (see Chapter 1, pp. 32-33).

In particular, the discussion will focus on the following subjects:

- Kindergarten teachers' knowledge about learning in the museum.
- The fields of the Norwegian and Greek National curriculum for kindergarten and their relation to museum uses.
- The reasons why the kindergarten teachers do not visit museums or not attend educational programs in museums along with their pupils.
- Kindergarten teachers' museum uses in relation to their responsibility of designing and carrying out educational programs inside museums for their kindergarten children; also the possible relation of these programs with the National Curricula.
- Kindergarten teachers' awareness regarding museum offers for educational programs for kindergarten children.
- Kindergarten teachers' conceptions about the impacts of museum educational programs on kindergarten children.

According to the results revealed from the research, it is apparent that more Greek kindergarten teachers have specific knowledge about learning in the museum in comparison with the Norwegian kindergarten teachers (Figure 5.5, p. 80). This can be explained by the fact that many kindergarten teachers in Greece have acquired this knowledge after their studies (participating in seminars or training courses), which could be optional. The Norwegian kindergarten teachers, on the other hand, although they have acquired their knowledge concerning museum education from their graduate studies, they haven't received any further training e.g. seminars, conferences since then, as it is indicated from the results (see Table 5.4, p. 83).

Nevertheless, their personal interest about the subject has, in a noticeable point, been a factor that has contributed in the use of the museum as a learning arena for their kindergarten children; responses like *conversation with colleagues and museums' employs, read relevant articles/use museum's material* are remarks which indicated that personal interest can be a positive factor for the awareness of the museum use as a means for learning in preschool ages (see p. 82). Teachers' personal meanings regarding learning in informal settings affect their choices on school field trips, as was noticed by different studies (Kisiel 2003; Tal et al. 2005), (see Chapter 1, p. 29).

Once again, it is interesting to point out that acquired knowledge affects museum uses related to the curriculum for the kindergarten since the findings indicated a relationship between these two elements, concerning the participants from Greece (see Table 5.10, p. 92). This may propose that the Greek kindergarten teachers feel more comfortable in using the museums by any means and in relation to their everyday curriculum, after having participated in relevant training courses or seminars; since it was revealed that they have acquired information and knowledge about the perspectives of learning in the museum, it is indicated that the use this knowledge in practice.

Additionally, it is remarkable that previously acquired knowledge about museum education can be proved as an essential factor for kindergarten teachers both in Norway and Greece in relation to the accomplishment of designing educational activities in the museum (see Table 5.2, p. 80). It is indicated that there is a relation between acquired knowledge and kindergarten teachers from Norway designing and carrying out programs in the museums for their classroom children Regarding the two

countries separately, kindergarten teachers in Norway with acquired knowledge related to museum's learning perspectives, seem to be more interested in using the museum by designing and carrying out programs in relation to their everyday curriculum than the Greek kindergarten teachers (see Table 5.3, p. 81). The relationship between these two elements is indicating that if there were more kindergarten teachers who had acquired knowledge related to museum education, there would be more of them who would have been designing activities inside the museum for their pupils. The kindergarten's role in the connection of the curriculum with the museum program is related to the creation of alternative ways of learning and use of different techniques in learning environments with interdisciplinary dimensions, as was pointed by Mouratian in Chapter 2 (p. 55).

Results revealed that kindergarten teachers' beliefs concerned a high extent of children's increased skills or acquired new from their participation in educational programs in museums (see Figures 5.12 and Table 5.6 (see p. 86 and 87). It is evident that both Norwegian and Greek kindergarten teachers consider museum experience important and beneficial for children in kindergarten. Museum educational programs can reflect on prior experience and create new meanings through personal, social and physical structures as was theorized by Falk and Dierking (1992) through the Interactive Experience Model (see Chapter 2, p. 43).

It is very interesting to see that the national curricula for kindergarten both in Norway and Greece can have an important connection with the museum, as it may be concluded from the kindergarten teachers' responses in pages 88 and 89 (Table 5.7 and Table 5.8). The educational practices of the museums have been prioritised and highlighted by other European governments, like United Kingdom, as was pointed by Hooper-Greenhill in Chapter 2 (see p. 51). The connection between the kindergarten with the local society and the museum is highlighted in both the Greek and Norwegian Curriculum for kindergartens (see pp. 51-55). It is significant that the curriculum's dimensions goes beyond the classroom and focuses on the children's experiences. The field of the Norwegian and Greek kindergarten Curriculum which was mostly preferred by the kindergarten teachers from both countries regarding its connection with the museum use is Art and Creativity (*Creation and Expression* for Greece and *Art, Culture and Creativity* for Norway). Art Museums and Galleries promote the aesthetic understanding , help children in the acquirement of critical

thinking, observation, visual literacy and other skills, (as was mentioned in the Literature Chapter, pp.45-47), but can help them in the formation of their *cultural capital*, as Bourdieu has concluded from his research (see Chapter 1, p. 16).

But, another interesting point regarding to the relationship between the kindergarten curriculum both in Norway and in Greece with the museum uses in practice, according to the responses of the kindergarten teachers is its connection mostly with the field of the Environment. The kindergarten teachers' responses (displayed in Table 5.15 and Table 5.16, pp. 99 and 100) indicate a strongly connection of the field of the national curricula connected with the subject of *Environment and Nature* and museum uses in practice. The same results were indicated by Mackety's (2003) where themes from Nature, Environment and Technology were preferred by elementary teachers for thematic excursions at museums (see Chapter 1, p. 30). However, we cannot exclude the fact that environmental issues are in focus in the society, as it is indicated from the outcome results and the priority that the kindergarten teachers have shown by connecting the specific field of Environment with their museum visitations; therefore, Janes (2010) had argued that the museum is considered as mindful and meaningful, as it can create awareness to the audience regarding different global issues.

In addition, as it may be concluded by the Norwegian kindergarten teachers' responses, they used museum mostly by visiting, while Greek kindergarten teachers related their museum uses mostly with projects connected with the kindergarten's curriculum (see Table 5.11, p. 93). Museum experience creates learning possibilities during a museum visit, as was reported by Kisiel (2003) and Tal et al. (2005). Greek kindergarten teachers' opinions that curriculum can actually be strongly related to a museum visit are compatible with the results presented by Zografou-Tsantaki's (2004), (see p. 28). Regarding the frequency of the museum uses, it should be mentioned that one of the five participants Norwegian kindergarten teachers answered that she never visits museums during a school year (see Figure 5.8 and Figure 5.9, p. 84). School teachers participated in Korpan et al. (1997) research, had noticed that they expect at children would have at least one museum experience before they begin at school (see Chapter 2, p. 42).

Results concerning the reasons why the kindergarten teachers do not visit museums or not attend educational programs in museums along with their pupils (see Table 5.12 and Table 5.13, pp. 94-95), indicated some of the problems which are related to kindergartens' operation in general. The results indicated that the economic factor is the main reason that kindergartens from the two countries don't visit museums so often can be easily explained, concerning the Greek participants, by the general situation of the Greek society in the late years, since kindergarten teachers participating in the research were working in public kindergartens, financed by public sources. On the other hand, economy concerns also the Norwegian kindergarten teachers, even though that these two countries are not in the same financial situation at the moment; this may reveal a general issue concerning the lack of enough economical budgets regarding activities outside the kindergarten setting, such as museum visits, (even if the economical source is the community/private (Norway) or the public (Greece)). It is also remarkable that they think that museums don't offer them enough information about their programs for kindergartens. *Creation of one central information office relation with cultural issues and kindergartens*, as was suggested by one of the Greek kindergarten teachers, could be a positive presumption for a better communication and cooperation between the local society, museums and kindergartens.

Moreover, regarding the lack of awareness of the offered museum educational programs in their city, concerning the Norwegian kindergartens and as it is indicated from the results (see Figure 5.10 and Figure 5.11, p. 85), it can be assumed that it is related to the lack of information from museums or the limited offered programs regarding museum offers and can affect their museum uses. The lack of information from museums can also be concerned as one of the reasons why Norwegian kindergarten teachers use museums mostly by visits (see Table 5.11, p. 93 and Table 5.13, p. 95), and not by other means (programs, visual material, internet uses, etc.). It could be hypothesized that if the Norwegian kindergarten teachers had acquired more information about the offered educational programs or other alternative ways of using the museum, they would probably use the museum in other ways than mostly by visits only.

However, it is also interesting that kindergarten teachers in Greece noticed that they don't have the opportunity of making more than one trip per month as there're *limited*

*permissions for excursions from the Ministry of Education for kindergartens* (see p. 96 in Chapter 5). This could mean that they would probably conduct more excursions per month (to museums, theatre, etc.) if it was permitted by the responsible authorities for the kindergartens' operation. Also, at this point, it is worth mentioning one answer given by one of the Norwegian kindergarten teachers as a reason for not using the museum so often: *We have not realized the value of the museum and how to use it with our kindergarten children*; this statement may approach the kindergarten teachers' need for more training and information in relation to the learning perspectives inside the museum.

As it may be concluded by the Greek kindergarten teachers' responses (see Figure 5.15, p. 97), they have been more flexible on organizing and carrying out their own designed programs inside museum, in comparison with their Norwegian colleagues. This can be explained by the fact revealed also by the results, that they had participated in training courses or attended relevant seminars/conferences in a higher percentage than the Norwegian kindergarten teachers had (see Table 5.4, p. 83). In particular, kindergarten teachers from Norway who haven't acquired knowledge in relation to museum education, appear more negative in organizing and carrying out programs in museums. It can be possible that people can probably be 'afraid' of fields that they think, or actually, don't have enough knowledge about. That is maybe one of the reasons why they are not so 'open' in designing and carrying out programs/projects in the museum (see Figures 5.16 and 5.17, p. 97). Black (2005) recognizes the role of the teacher regarding the design of creative and interesting activities in the museum for her classroom children, while many suggestions regarding the procedure of the implementation of the programs are given by ICOM, UNESCO (Chapter 2, p. 53).

It is also interesting that the results indicated that those kindergarten teachers with less than ten years working experience have not been designed or carried out programs inside the museum in a higher percentage in comparison with those with more than ten years working experience, concerning the two groups together (see Table 5.14, p. 98). This could be explained by the possibility that people with less working experience could be more negative in taking responsibilities and initiatives than others with more years of working experience and more confidence in themselves and their capabilities, which experience may provide.

Kindergarten teachers from Norway and Greece had an overall positive perception about the impacts on kindergarten children of their participation in educational programs in museums. Regarding the findings in earlier research, the trend appeared to be the same since different studies had revealed similar results (see pp. 25-28, Chapter 1). In addition, kindergarten teachers, both from Norway and Greece, believed that children's participation in designed educational museum programs will provide them opportunities to acquire new skills and abilities or reinforce their particular intelligences. Children learn alongside one another, developing social skills and emotional intelligence; therefore, these programs can be considered as significant experiences for learning as Frøyland and Langholm (2009) had argued (see p. 49, Chapter 2). Additionally, *increase in skills* was also revealed as a learning outcome regarding teachers' expectations from a museum visit, as was indicated from previous studies (see Chapter 1, p. 29).

In particular, kindergarten teachers think that children, by the constructivist learning occurring in museum programs, can “learn from actions rather than passive observations” as Piaget has claimed (see Chapter 2, p. 35). The ideas of G. Hein (1995) about the constructivist museum and its interactive approach for children, agree with kindergarten teachers' concepts, as the results indicated (Table 5.17, p. 102). Hereby, correspondence between kindergarten and museum is essential since children construct meaning from experiences, and this was noticeable in the responses.

Interestingly, another benefit for kindergarten children, which was remarked from the participants, was the experiential learning perspectives of museum educational programs. More specifically, according to Dewey's conceptions regarding “museums to life experience in education” (see Chapter 2, p. 40), the kindergarten teachers seemed to agree that museum is an inform learning setting wherein children participate interactively in joyful and educative activities. Thus, museums are settings which aim at the social interaction between children/visitors, kindergarten teachers and program educators, through their dialogical and role-playing activities, as it was mentioned in Chapter 2 (see pp. 49-50).

It should be also pointed that kindergarten teachers' conceptions regarding children's interaction with the museum exhibits is additionally positive; museum objects are

implements of new meaning-making, since they can connect new information and the environment, based on prior experiences. Physical interactivity with museum objects provides the learner with access to the phenomena of the world and contributes to the “dynamic process of interpretation and reinterpretation”, as it was mentioned by Pearce (1994), in Chapter 2 (see p. 47).

At this point, it is interesting to note that the Norwegian and Greek kindergarten teachers’ views about the impacts on children of their interaction with museum are quite similar. However, a small variation in the order of their responses was indicated as shown in Table 5.18 (see p. 103). In particular, the Greek kindergarten teachers seemed to take into great consideration the development of children’s skills like critical thinking, power of observation and examination, which would help them in their aesthetic appreciation. The importance of the development of visual literacy for children was pointed by Yenawine (1997; 2002) in Chapter 2 (pp. 45-47).

Another interesting point derived from the results is that the Greek kindergarten teachers think that museums can help in the connection between the past with the present (see Table 5.18, p. 103). In other words, it seems that they take into great consideration history and culture, and that they hope that their kindergarten children will be also aware of their past and connected with the present. Greek people are very proud of their ancient historical background, which can be also justified both from the first National Museum of Greek Antiques which was established in Greece in the 19<sup>th</sup> century, and the existence of many museums of ancient history in Greece (see Chapter 1, p. 17). Hooper-Greenhill’s research had revealed also the preference of teachers in the connection of museum visits with the subject of *History*, as it mentioned in Chapter 1 (see Chapter 1, p. 29). Historical understanding and empathy, as well as cultural background, are important elements in the formation of a country’s identity and, museum education aims to nurture a sense of community, history and culture value.

## **6.2 Conclusions**

The present study was conducted in order to examine the kindergarten teachers’ concepts regarding museum as a learning arena for kindergarten children in Norway and Greece and its connection with their National Curricula for the kindergarten. Furthermore, a possible differentiation between the Norwegian and Greek

kindergarten teachers' views related to the impact on children of learning in the museum was investigated. The findings, as they were displayed previously, indicated the following:

- The level of kindergarten teachers' knowledge on learning perspectives inside the museum may affect their museum uses with their kindergarten children. Consequently, we can hypothesize that a great extent of kindergarten teachers' knowledge related to museum education may cause a more often use of the museum as a learning arena (with visits, participation in programs, use of visual material, internet use, etc.).
- Kindergarten teachers' participation in training courses or attendance in seminars/conferences related to museum education can be considered valuable for an effective use of museum for kindergarten children. The specific training courses/seminars could be also offered by the museums for *an open communication* with all the educational settings, included kindergarten.
- Kindergarten teachers from Norway have acquired their knowledge related to museum education mostly from their graduate studies while kindergarten teachers from Greece have acquired this specific knowledge from attendance of training courses and seminars.
- There is a lack of awareness related to the offered museum programs by the Norwegian kindergarten teachers, which can be connected with the lack of information and lack of offers from the museums.
- Information from museums regarding their offered educational programs (or other options for museum uses (e.g. visual material, internet use, etc.) for kindergarten children is considered important for the frequent and essential cooperation and communication between the museum and kindergarten; additionally, museums should also take into consideration the economical budget of kindergartens and consider or suggest possible solutions in order to accomplish a frequent participation of kindergartens in their educational programs.

- The contribution of a responsible person or office for cultural issues would be vital, as it could be achieved a more effective communication between museums and kindergartens.
- There is a connection between awareness regarding learning inside the museum and museum uses by kindergarten teachers through designing and carrying out their own programs for their kindergarten children.
- The use of the museum can be related with almost all fields of the National Curriculum for the Norwegian and Greek kindergarten. The kindergarten teachers prefer to connect more some of the fields of their curriculum with their annual museum uses and their personal designed and carried out programs in the museums.
- There is assimilation between the concepts of kindergarten teachers in Norway and Greece regarding the role of the museum as a learning arena for the kindergarten. Both Norwegian and Greek kindergarten teachers believe that there are positive impacts of the participation in museum educational programs on kindergarten children.

### **6.3 Limitations of the study and further research possibilities**

The present study was planned carefully in order to provide reliable information about the concepts of kindergarten teachers in Norway and Greece concerning the use of the museum as a learning arena for the kindergarten. However, it is noteworthy the fact whilst carrying out this study, some considerable limitations became apparent.

The questionnaire was distributed to 110 kindergarten teachers in Athens, Greece, from which the researcher received 79 questionnaire responses. The researcher used 59 of the 79 questionnaires for the reason of equality to the questionnaires from Norway (keeping the order of return). In addition, concerning the distribution of the questionnaires in Norway, it was not possible to calculate how many kindergarten teachers actually were aware of the questionnaire but decided not to participate in the research. Therefore, it was difficult for the researcher to estimate the exact number of the distributed questionnaires, since she was aware only of the returned filled out questionnaires, as the leaders of the kindergartens did not provided her with any information regarding the number of the informed kindergarten teachers. The total

amount of 118 questionnaires from both Norway and Greece may be considered as a satisfied number, but the number of 59 questionnaires from each country may not be sufficient to lead the researcher to any generalizations regarding her research questions.

Thus, any further research possibilities would be beneficial to investigate any possible difference or similarity about the concepts regarding the museum as a learning arena for kindergarten among kindergarten teachers from two different areas of Norway, Oslo and Tromsø. Oslo, as the capital and biggest city of Norway in population, and Tromsø, situated in the North Norway and ninth city in population in the country, provide an interesting point for comparison in the museum uses by the kindergarten teachers of these two different geographical areas of Norway.

Additionally, there are possibilities for further research regarding separately fields of the National Curricula for kindergarten in Norway and Greece. The results indicated that kindergarten teachers use mostly museum in relation to the field of the *Environment*. Environmental issues are certainly in focus in the modern society and it would be interesting to investigate whether museum use as a learning arena can contribute in the environmental awareness of kindergarten children.

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[http://www.tekniskmuseum.no/index.php?option=com\\_jdownloads&Itemid=565&task=finish&cid=3927&catid=174](http://www.tekniskmuseum.no/index.php?option=com_jdownloads&Itemid=565&task=finish&cid=3927&catid=174)

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*\*All the photos (2010-2011) in this dissertation belong to the ownership of its author*

# APPENDICES

## Appendix A

### 1. Information letter to Greek Folk Art Museum in Athens, Greece and consent of observation

ΠΑΝΕΠΙΣΤΗΜΙΟ ΤΡΟΜΣØ ΝΟΡΒΗΓΙΑΣ

ΙΣΤΙΤΟΥΤΟ ΕΚΠΑΙΔΕΥΣΗΣ

ΚΑΙ ΠΑΙΔΑΓΩΓΙΚΗΣ

ΜΟΥΣΕΙΟ ΕΛΛΗΝΙΚΗΣ ΛΑΪΚΗΣ ΤΕΧΝΗΣ

ΚΥΔΑΘΥΝΑΙΩΝ 17

ΠΛΑΚΑ, ΑΘΗΝΑ

Αθήνα 14.11.2011

#### **Αναφορικά με την έρευνα**

Είμαι μεταπτυχιακή φοιτήτρια στο 2<sup>ο</sup> έτος στο ILP (Ινστιτούτο Παιδείας και Εκπαίδευσης) στο Πανεπιστήμιο του Τρομσø της Νορβηγίας και βρίσκομαι στο τελευταίο μέρος της μεταπτυχιακής μου μελέτης. Η επιλογή του θέματος της διατριβής οφείλεται στο γεγονός ότι είμαι νηπιαγωγός με πολλά χρόνια διδακτικής εμπειρίας σε δημόσια νηπιαγωγεία στην Ελλάδα. Τώρα ασχολούμαι με την μελέτη που καλείται να διερευνήσει τις απόψεις των Ελλήνων και Νορβηγών νηπιαγωγών αναφορικά με το Μουσείο ως χώρο μάθησης για το νηπιαγωγείο. Για το λόγο αυτό θα δοθεί ένα ανώνυμο ερωτηματολόγιο σε νηπιαγωγούς σε Ελλάδα και Νορβηγία.

#### **Εστίαση της έρευνας**

Η συγκεκριμένη έρευνα φέρει τον τίτλο: «*Το Μουσείο ως αρένα μάθησης για το Νηπιαγωγείο. Παραδείγματα από τη Νορβηγία και την Ελλάδα*». Σκοπός της έρευνας είναι να εξετάσει την εννοιολογική κατανόηση της μάθησης από τους νηπιαγωγούς στην Ελλάδα και τη Νορβηγία για τη χρήση του μουσείου ως μέσω μάθησης στην προσχολική εκπαίδευση και ως αρένα μάθησης για τα παιδιά ηλικίας μεταξύ 4 και 6 ετών. Τέλος, στην έρευνα αυτή θα εξεταστεί σε ποιο βαθμό οι Έλληνες και Νορβηγοί νηπιαγωγοί χρησιμοποιούν το μουσείο ως μέσο (εργαλείο) υλοποίησης προγραμμάτων που σχετίζονται με τα Εθνικά Αναλυτικά Προγράμματα Σπουδών τους. Υπάρχουν διαφορετικές αντιλήψεις μεταξύ των νηπιαγωγών που χρησιμοποιούν το μουσείο ως εκπαιδευτικό χώρο και εκείνων που δεν έχουν χρησιμοποιήσει το μουσείο ενεργά;

### **Συγκέντρωση και επεξεργασία δεδομένων**

Ως μέθοδος συλλογής δεδομένων έχει επιλεγεί το ερωτηματολόγιο. Οι νηπιαγωγοί που θα συμμετάσχουν στην συμπλήρωση των ερωτηματολογίων ανήκουν στο 1<sup>ο</sup> έτος σπουδών Γενικής Εκπαίδευσης του Διδασκαλείου Νηπιαγωγών του Πανεπιστημίου Αθηνών και παραμένουν ανώνυμοι. Τα αποτελέσματα θα υποβληθούν σε ποσοτική και ποιοτική επεξεργασία. Το ερωτηματολόγιο περιλαμβάνει κλειστές και ανοικτές ερωτήσεις και η συμπλήρωσή του διαρκεί περίπου 15 λεπτά και είναι εθελοντική. Ο συμμετέχων μπορεί να παραιτηθεί εφόσον το επιθυμεί. Οι πληροφορίες που θα συλλεχθούν θα παραμείνουν απόρρητες και οι απαντήσεις δεν θα είναι προσιτές από οποιονδήποτε άλλο εκτός της ερευνήτριας. Τα δεδομένα θα διαγραφούν μετά την ολοκλήρωση της έρευνας στο τέλος Ιουνίου 2011.

Στη συγκεκριμένη έρευνα θα συμπεριληφθούν περιγραφικά δύο εκπαιδευτικά προγράμματα μουσείων (ένα από Μουσείο της Αθήνας και ένα από Μουσείο του Όσλο της Νορβηγίας), τα οποία απευθύνονται σε παιδιά νηπιαγωγείου. Δεν θα πραγματοποιηθεί αξιολόγηση των προγραμμάτων, παρά μόνο περιγραφική τους αναφορά.

Παρακαλώ επικοινωνήστε εάν έχετε απορίες ή επιθυμείτε να ενημερωθείτε σχετικά με τα αποτελέσματα της έρευνας, όταν αυτά είναι διαθέσιμα. Για περισσότερες πληροφορίες, παρακαλώ επικοινωνήστε μαζί μας στις παρακάτω διευθύνσεις:

Μεταπτυχιακή Φοιτήτρια:

Μαρία Δαρδανού

e-post: [mda019@post.uit.no](mailto:mda019@post.uit.no)

Τηf: 004798867183

Υπεύθυνη καθηγήτρια:

Rita Tiller

e-post: [rita.tiller@uit.no](mailto:rita.tiller@uit.no)

Τηf: 0047776 60477

**Δήλωση Συναίνεσης**

Έχω λάβει πληροφορίες αναφορικά με τη διεξαγωγή της έρευνας: «*Το Μουσείο ως αρένα μάθησης για το Νηπιαγωγείο. Παραδείγματα από τη Νορβηγία και την Ελλάδα*» και την παρακολούθηση ενός εκπαιδευτικού προγράμματος για παιδιά νηπιαγωγείου στο Μουσείο Ελληνικής Λαϊκής Τέχνης.

Υπογραφή: 

Ημερομηνία: 18-1-2011

Τηλέφωνο Επικοινωνίας: 210-3239813  
επίσημα εκπαιδευτικών προγραμμάτων  
Μουσείο Ελληνικής Λαϊκής Τέχνης

## 2. Information letter to Norwegian Museum of Science and Technology in Oslo, Norway and consent of observation

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UNIVERSITET I TROMSØ  
INSTITUTT FOR LÆRERUTDANNING  
OG PEDAGOGIKK

Teknisk Museum

Oslo 11.03.2011

### Min bakgrunn for undersøkelsen

Jeg er masterstudent på 2. året ved ILP (institutt for lærerutdanning og pedagogikk) ved Universitetet i Tromsø og holder nå på med siste del av masterstudiet. Mitt valg av tema har sammenheng med at jeg er førskolelærer med flere års erfaring i barnehager i Hellas. Nå arbeider jeg med en undersøkelse om førskolelærere av museet som læringsarena. I forbindelse med skriving av oppgaven ønsker jeg å observere en planlagt pedagogiske program for barnehagens barn med alder mellom 4-6 år.

### Forskningsfokus i barnehagen

Prosjektet har fått følgende tittel: Museet som læringsarena for barnehagen. Eksempler fra Norge og Hellas. Formål med den studien er å undersøke bergepene av førskolelærere i Norge og Hellas om læringsmulighetene i et museum. Et forhold med prosjektet er å se museet som en læringsarena for barnehagens barn mellom 4-6 år. Avslutningsvis i prosjektet ønsker jeg å se hvis norske og greske førskolelærere bruker museet som et middel (verktøy) til å gjennomføre prosjekter knyttet til deres nasjonale læreplanen. Er det en differensiering av forestillinger om museum utdanning mellom de lærere i Norge og i Hellas som har gjennomført prosjekter inne i museet og de som ikke har?

### Observasjon i museene

Under min forskningsprosjekt vil jeg observere et pedagogisk opplegg i museene i Norge og i Hellas. Hensikten med disse observasjonene er å finne hva slags

aktiviteter er brukt under både oppleggene, hva var varigheten av både oppleggene, har oppleggene sammenheng med de nasjonale rammeplaner for barnehager i begge landene. Hva er de vanligste og ulike elementer av de pedagogiske opplegg mellom de to landene?

Den informasjonen jeg får under datainnsamlinga vil bli behandla konfidensielt. Data vil slettes etter prosjektets avslutning, innen utgangen av juni 2011.

Ta gjerne kontakt dersom du har spørsmål eller ønsker å bli informert om resultatene fra undersøkelsen når de foreligger. Dersom du ønsker mer informasjon kan du kontakte med på adressen under:

Med vennlig hilsen  
Maria Dardanou

Masterstudent  
Maria Dardanou  
e-post: [mda019@post.uit.no](mailto:mda019@post.uit.no)  
Tlf: 98867183

Veileder ved ILP:  
Rita Tiller  
e-post: [rita.tiller@uit.no](mailto:rita.tiller@uit.no)  
Tlf: 776 60477

#### **Samtykkeerklæring:**

##### **Teknisk Museum:**

Jeg har mottatt informasjon om prosjektet *Museet som læringsarena for barnehagen. Eksempler fra Norge og Hellas..*

Signatur: Håvard Heggelund

Dato: 11. mars 2011

### 3. Educational program at the Greek Folk Art Museum, Athens, Greece



*The shadow puppet exhibit of Karagiozis*



*The educator uses the question-answer method to introduce the exhibits*



*Children in small groups coloring the figures*



*Some of the figures*



*Traditional costumes connected with the Karagiozis exhibits*

#### 4. Educational program at the Norwegian Museum of Science and Technology, Oslo, Norway



*Storytelling by the educator about Dragon Berta*



*The museum's Lab*



*Children doing chemical experiments by using everyday life materials*

**5. Observed day with kindergarten children at Tromsø Museum in Tromsø, Norway**



*'Group meeting' with discussions about the exhibits*



*Children interacting with exhibits*



*Look around alone*



*Talking about the Sámi minority*



*Exploring the exhibits*

## APPENDIX B

### 1. Information letter to Kindergarten Training School in Athens, Greece and consent of participation in the research

ΠΑΝΕΠΙΣΤΗΜΙΟ ΤΡΟΜΣØ ΝΟΡΒΗΓΙΑΣ

ΙΝΣΤΙΤΟΥΤΟ ΕΚΠΑΙΔΕΥΣΗΣ

ΚΑΙ ΠΑΙΔΑΓΩΓΙΚΗΣ

ΕΘΝΙΚΟ ΚΑΙ ΚΑΠΟΔΙΣΤΡΙΑΚΟ  
ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΘΗΝΩΝ  
ΤΜΗΜΑ ΕΚΠΑΙΔΕΥΣΗΣ  
ΚΑΙ ΑΓΩΓΗΣ ΣΤΗΝ ΠΡΟΣΧΟΛΙΚΗ ΗΛΙΚΙΑ  
ΔΙΔΑΣΚΑΛΕΙΟ ΝΗΠΙΑΓΩΓΩΝ

Αθήνα 10.11.2011

#### **Αναφορικά με την έρευνα**

Είμαι μεταπτυχιακή φοιτήτρια στο 2<sup>ο</sup> έτος στο ILP (Ινστιτούτο Παιδείας και Εκπαίδευσης) στο Πανεπιστήμιο του Tromsø της Νορβηγίας και βρίσκομαι στο τελευταίο μέρος της μεταπτυχιακής μου μελέτης. Η επιλογή του θέματος της διατριβής οφείλεται στο γεγονός ότι είμαι νηπιαγωγός με πολλά χρόνια διδακτικής εμπειρίας σε δημόσια νηπιαγωγεία στην Ελλάδα. Τώρα ασχολούμαι με την μελέτη που καλείται να διερευνήσει τις απόψεις των Ελλήνων και Νορβηγών νηπιαγωγών αναφορικά με το Μουσείο ως χώρο μάθησης για το νηπιαγωγείο. Για το λόγο αυτό θα δοθεί ένα ανώνυμο ερωτηματολόγιο σε νηπιαγωγούς σε Ελλάδα και Νορβηγία.

#### **Εστίαση της έρευνας**

Η συγκεκριμένη έρευνα φέρει τον τίτλο: «*Το Μουσείο ως αρένα μάθησης για το Νηπιαγωγείο. Παραδείγματα από τη Νορβηγία και την Ελλάδα*». Σκοπός της έρευνας είναι να εξετάσει την εννοιολογική κατανόηση της μάθησης από τους νηπιαγωγούς στην Ελλάδα και τη Νορβηγία για τη χρήση του μουσείου ως μέσο μάθησης στην προσχολική εκπαίδευση και ως αρένα μάθησης για τα παιδιά ηλικίας μεταξύ 4 και 6 ετών. Τέλος, στην έρευνα αυτή θα εξεταστεί σε ποιο βαθμό οι Έλληνες και Νορβηγοί νηπιαγωγοί χρησιμοποιούν το μουσείο ως μέσο (εργαλείο) υλοποίησης προγραμμάτων που σχετίζονται με τα Εθνικά Αναλυτικά Προγράμματα Σπουδών τους. Υπάρχουν διαφορετικές αντιλήψεις μεταξύ των νηπιαγωγών που χρησιμοποιούν

το μουσείο ως εκπαιδευτικό χώρο και εκείνων που δεν έχουν χρησιμοποιήσει το μουσείο ενεργά;

#### **Συγκέντρωση και επεξεργασία δεδομένων**

Ως μέθοδος συλλογής δεδομένων έχει επιλεγεί το ερωτηματολόγιο. Οι νηπιαγωγοί που θα συμμετάσχουν στην συμπλήρωση των ερωτηματολογίων ανήκουν στο 1<sup>ο</sup> έτος σπουδών Γενικής Εκπαίδευσης του Διδασκαλείου Νηπιαγωγών του Πανεπιστημίου Αθηνών και παραμένουν ανώνυμοι. Τα αποτελέσματα θα υποβληθούν σε ποσοτική και ποιοτική επεξεργασία. Το ερωτηματολόγιο περιλαμβάνει κλειστές και ανοικτές ερωτήσεις και η συμπλήρωσή του διαρκεί περίπου 15 λεπτά και είναι εθελοντική. Ο συμμετέχων μπορεί να παραιτηθεί εφόσον το επιθυμεί. Οι πληροφορίες που θα συλλεχθούν θα παραμείνουν απόρρητες και οι απαντήσεις δεν θα είναι προσιτές από οποιοδήποτε άλλο εκτός της ερευνήτριας. Τα δεδομένα θα διαγραφούν μετά την ολοκλήρωση της έρευνας στο τέλος Ιουνίου 2011.

Παρακαλώ επικοινωνήστε εάν έχετε απορίες ή επιθυμείτε να ενημερωθείτε σχετικά με τα αποτελέσματα της έρευνας, όταν αυτά είναι διαθέσιμα. Για περισσότερες πληροφορίες, παρακαλώ επικοινωνήστε μαζί μας στις παρακάτω διευθύνσεις:

Μεταπτυχιακή Φοιτήτρια:  
Μαρία Δαρδανού  
e-post: [mda019@post.uit.no](mailto:mda019@post.uit.no)  
Tlf: 004798867183

Υπεύθυνη καθηγήτρια:  
Rita Tiller  
e-post: [rita.tiller@uit.no](mailto:rita.tiller@uit.no)  
Tlf: 0047776 60477

#### **Δήλωση Συναίνεσης**

Έχω λάβει πληροφορίες αναφορικά με τη διεξαγωγή της έρευνας: «*Το Μουσείο ως αρένα μάθησης για το Νηπιαγωγείο. Παραδείγματα από τη Νορβηγία και την Ελλάδα*» και την παράδοση ανώνυμων ερωτηματολογίων σε νηπιαγωγούς του 1<sup>ο</sup> έτους Γενικής Εκπαίδευσης του Διδασκαλείου Νηπιαγωγών του Πανεπιστημίου Αθηνών.

Υπογραφή:  
Ημερομηνία:  
Τηλέφωνο Επικοινωνίας:



## 2. Information letter to kindergarten teachers in Oslo and Tromsø, Norway

**UNIVERSITET I TROMSØ**  
**INSTITUTT FOR LÆRERUTDANNING**  
**OG PEDAGOGIKK**

Tromsø      11.02.2011

### **Min bakgrunn for undersøkelsen**

Jeg er masterstudent på 2. året ved ILP (Institutt for lærerutdanning og pedagogikk) ved Universitetet i Tromsø og holder nå på med siste del av masterstudiet. Mitt valg av tema for masteroppgaven har sammenheng med at jeg er førskolelærer med flere års erfaring fra barnehager i Hellas. Nå arbeider jeg med en undersøkelse om førskolelæreres oppfatning av museet som læringsarena. I forbindelse med skriving av oppgaven ønsker jeg å gi et anonymt spørreskjema til førskolelærere i deres barnehage.

### **Forskningsfokus**

Prosjektet har fått følgende tittel: **Museet som læringsarena for barnehagen. Eksempler fra Norge Hellas.** Formål med studien er å undersøke begrepsforståelsen om læring knytta til bruk av museum hos førskolelærere i Norge og i Hellas. Et siktmål med prosjektet er å se på museet som en læringsarena for barnehagebarn mellom 4 og 6 år. Avslutningsvis i prosjektet ønsker jeg å undersøke i hvilken grad norske og greske førskolelærere bruker museet som et middel (verktøy) til å gjennomføre prosjekter knyttet til deres nasjonale læreplaner. Er det ulike oppfatninger blant førskolelærere som har benytta seg av museet som læringsarena, og de som ikke har brukt museum aktivt?

### **Innsamling og bearbeiding av data**

Jeg har valgt spørreskjema som metode for innsamling av data. Barnehagene er et tilfeldig utvalgt fra Oslo/ Tromsø kommunes nettside. Resultatene vil bli bearbeidet kvantitativt og kvalitativt. Spørreskjemaet inneholder både lukkede og åpne spørsmål og utfyllingen vil ta ca. 15 minutter. Utfyllingen er frivillig, og informanten har mulighet å trekke seg under studien. Den informasjonen jeg får under datainnsamlingen vil bli behandlet konfidensielt, og svarene i oppgaven skal ikke kunne spores tilbake til barnehager eller enkeltpersoner. Data bli slettet etter prosjektets avslutning, innen utgangen av juni 2011.

Ta gjerne kontakt dersom du har spørsmål eller ønsker å bli informert om resultatene fra undersøkelsen når de foreligger. Dersom du ønsker mer informasjon, kan du ta kontakt på adressene under:

Masterstudent:

Maria Dardanou

e-post: [mda019@post.uit.no](mailto:mda019@post.uit.no)

Tlf: 98867183

Veileder ved ILP:

Rita Tiller

e-post: [rita.tiller@uit.no](mailto:rita.tiller@uit.no)

Tlf: 776 60477

Med vennlig hilsen

Maria Dardanou

**3. Questionnaire distributed to Norwegian kindergarten teachers in Oslo and Tromsø**

**UNIVERSITET I TROMSØ  
INSTITUTT FOR LÆRERUTDANNING  
OG PEDAGOGIKK**

**Spørreskjema**

Jeg er en gresk førskolelærer som studenter Master i pedagogikk ved Tromsø Universitetet og min masteroppgaves tema er "*Museet som læringsarena for barnehagen. Eksempler fra Norge og Hellas*".

Jeg blir takknemlig hvis dere kunne fylle ut vedlagte spørreskjema som vil utgjøre en del av mitt arbeid med å få tak i norske og greske førskolelæreres begrep omkring museum som læringsarena.

Informasjonen som innhentes vil være anonym og strengt konfidensiell.

Takk for deres samarbeid.

Med vennlig hilsen

Maria Dardanou

## Spørsmål

**1.** Du er:

Mann  Kvinne

**2.** Hva er din utdanning?

Høgskole  Master

**3.** Hvor mange års erfaring fra barnehage har du?

1-5  6-10  11-15  16-20  Fler enn 21

**4.** Har du noen gang fått kunnskap om læring i et museum?

Ja  Nei

**5.** Hvis ja, hvor har du fått slik kunnskap? Kryss av i boksene:

Akademisk Studie

Seminar

Konferanse

Annet

Hvis annet, beskriv kort.....

.....

.....

.....

**6.** Hvor ofte i løpet av barnehageåret besøker barnehagebarn fra din avdeling et pedagogisk opplegg i regi av et museum?

En gang per måned  To eller tre ganger per år

En gang per år  Aldri

**7.** Er du informert om eller bevisst på de pedagogiske oppleggene ved museene i byen din?

Ja  Nei

**8.** I hvilken grad tror du at barnehagebarna vil utvide sine kunnskaper, ferdigheter og holdninger etter å ha deltatt i et museums-pedagogisk opplegg?

Ingen  Liten grad  Passende grad  Stor grad

**9.** På hvilke av fagområdene fra Rammeplanen tror du at museet (for eksempel Tromsø Museum) kunne være en samarbeidspartner for barnehagen? (Kryss av i boksene):

<b>Fagområdene</b>	
Kommunikasjon, språk og tekst	<input type="checkbox"/>
Kropp, bevegelse og helse	<input type="checkbox"/>
Kunst, kultur og kreativitet	<input type="checkbox"/>
Natur, miljø og teknikk	<input type="checkbox"/>
Etikk, religion og filosofi	<input type="checkbox"/>
Nærmiljø og samfunn	<input type="checkbox"/>
Antall, rom og form	<input type="checkbox"/>

**10.** I løpet av din pedagogiske erfaring, har du noe gang brukt museet på noen måte, (f. eks. omvisning, besøk, deltakelse i et opplegg, læremidler, osv.) i forbindelse med den daglige planen i barnehagen?

Ja  Nei

**11.** Hvis ja, angi hvordan.....  
.....  
.....  
.....

**12.** Hva kan være grunner til at dere ikke oftere besøker eller deltar på et pedagogisk opplegg i et museum med deres barnehagebarn? (Kryss evt. av i flere av boksene).

Ingen tilbud fra byens museene

Økonomi

Mangel på informasjon fra museene

Organisasjonsmessige/personalmessige årsaker

Mangel på personlig interesse

Sikkerhetsgrunner for barna

Annet

Hvis annet, beskriv kort.....  
.....  
.....  
.....

**13.** Har du noen gang selv hatt ansvar for å lage et pedagogisk opplegg for dine barnehagebarn i et museum?

Ja  Nei

**14.** Hvis ja, kan du nevne hvilke tema, fagområder eller prosjekt fra rammeplanen det gjaldt?

.....  
.....  
.....

**15.** Etter din mening, hva får barna ut av å delta på et pedagogisk opplegg i et museum?

.....  
.....  
.....  
.....  
.....

Takk for din deltagelse!

#### 4. Questionnaire distributed to Greek kindergarten teachers

**ΠΑΝΕΠΙΣΤΗΜΙΟ ΤΡΟΜΣØ ΝΟΡΒΗΓΙΑΣ**

**ΙΣΤΙΤΟΥΤΟ ΕΚΠΑΙΔΕΥΣΗΣ**

**ΚΑΙ ΠΑΙΔΑΓΩΓΙΚΗΣ**

#### **ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ**

Είμαι νηπιαγωγός και βρίσκομαι στο 2ο έτος των μεταπτυχιακών μου σπουδών στο Πανεπιστήμιο του Tromsø της Νορβηγίας. Για τις ανάγκες της μεταπτυχιακής μου εργασίας διεξάγω μια έρευνα με θέμα *«Το Μουσείο ως αρένα μάθησης για το νηπιαγωγείο. Παραδείγματα από την Νορβηγία και την Ελλάδα»*.

Για το λόγο αυτό θα εκτιμούσα αν συμπληρώνατε το παρόν ερωτηματολόγιο και παραθέτατε τις απόψεις σας με βάση την εμπειρία και τη επιστημονική σας κατάρτιση έτσι ώστε να διερευνηθούν οι απόψεις των Ελλήνων (και Νορβηγών) νηπιαγωγών αναφορικά με τη μάθηση στο μουσείο.

Οι πληροφορίες που θα συγκεντρωθούν είναι αυστηρά εμπιστευτικές και ανώνυμες.

Ευχαριστώ για τη συνεργασία σας.

Με εκτίμηση

Μαρία Δαρδανού

## ΕΡΩΤΗΣΕΙΣ

**1.** Ποιο είναι το φύλο σας;

Ανδρας  Γυναίκα

**2.** Ποιο είναι το επίπεδο σπουδών σας;

Παιδαγ. Ακαδημία  Εξομοίωση  Πανεπιστήμιο  Master/Phd

**3.** Πόσα χρόνια εκπαιδευτικής εμπειρίας στο νηπιαγωγείο έχετε;

1-5  6-10  11-15  16-20  Πάνω από 21

**4.** Έχετε κάποια γνώση αναφορικά με τη μάθηση στο Μουσείο (Μουσειακή Εκπαίδευση);

Ναι  Όχι

**5.** Αν, ναι, παρακαλώ σημειώστε στο/στα κατάλληλα πλαίσια τον τρόπο που την αποκτήσατε

Προπτυχιακό Μάθημα

Σεμινάριο

Συνέδριο

Επιμόρφωση

Άλλο

Άλλο, παρακαλώ περιγράψτε.....

.....

**6.** Πόσα συχνά κατά τη διάρκεια μιας σχολικής χρονιάς επισκέπτεστε ένα μουσείο με τα παιδιά της τάξης σας;

Μία φορά το μήνα  Δύο-τρεις φορές το χρόνο

Μία φορά το χρόνο  Ποτέ

**7.** Είστε ενήμεροι για τα πιθανά προσφερόμενα εκπαιδευτικά προγράμματα από τα μουσεία της πόλης σας;

Ναι  Όχι

**8.** Σε ποιο βαθμό πιστεύετε ότι τα παιδιά του νηπιαγωγείου σας θα αυξήσουν ή αποκτήσουν ικανότητες μετά από την παρακολούθηση ενός εκπαιδευτικού προγράμματος στο μουσείο;

Καθόλου  Λίγο  Αρκετά  Πολύ

**9.** Με ποιο από τα θεματικά πεδία του αναλυτικού προγράμματος πιστεύετε ότι θα μπορούσατε να συνδυάσετε με ένα μουσείο έτσι ώστε να διευκολυνθεί η συνεργασία μουσείου και νηπιαγωγείου;

Πεδία	
Γλώσσα	<input type="checkbox"/>
Μαθηματικά	<input type="checkbox"/>
Περιβάλλον	<input type="checkbox"/>
Δημιουργία και Έκφραση	<input type="checkbox"/>
Πληροφορική	<input type="checkbox"/>

**10.** Κατά τη διάρκεια της εκπαιδευτικής εμπειρίας έχετε χρησιμοποιήσει ποτέ το Μουσείο με κάποιο τρόπο (επίσκεψη, ξενάγηση, συμμετοχή σε πρόγραμμα, εποπτικό υλικό, κτλ) για τους σκοπούς του καθημερινού σας προγράμματος στο νηπιαγωγείο και σε σχέση με το Αναλυτικό Πρόγραμμα Σπουδών για το Νηπιαγωγείο;

Ναι  Όχι

**11.** Αν ναι, αναφέρατε τον τρόπο:

.....  
.....  
.....

**12.** Ποιοι κατά τη γνώμη σας είναι οι λόγοι για τους οποίους δεν πραγματοποιείτε συχνότερες επισκέψεις σε μουσεία και παρακολουθήσεις εκπαιδευτικών προγραμμάτων με τα παιδιά του νηπιαγωγείου σας;

Έλλειψη προσφοράς από την πλευρά των μουσείων της πόλης σας

Οικονομικοί λόγοι

Έλλειψη ενημέρωσης από την πλευρά των μουσείων

Οργανωτικοί λόγοι

Ελλιπές προσωπικό ενδιαφέρον

Λόγοι ασφάλειας παιδιών

Άλλο

Άλλο, παρακαλώ αναφέρατε.....

.....

**13.** Έχετε διεξαγάγει ποτέ ο ίδιος/ίδια ένα προγραμματισμένο πρόγραμμα σε κάποιο μουσείο με τα παιδιά της τάξης σας;

Ναι  Όχι

**14.** Αν ναι, μπορείτε να αναφέρετε με ποιο θέμα, project ή πεδίο του αναλυτικού προγράμματος σχετιζόταν το συγκεκριμένο πρόγραμμα;

.....

.....

**15.** Ποια πιστεύετε ότι θα είναι τα γενικά οφέλη για τα παιδιά από τη συμμετοχή τους σε ένα εκπαιδευτικό πρόγραμμα στο μουσείο;

.....

.....

.....

.....

Ευχαριστώ για τη συμμετοχή σας!

## 5. Questionnaire (English Version)

### QUESTIONNAIRE

I am Greek kindergarten teacher studying in Norway for a Master's degree in Pedagogy at the University of Tromsø and my master thesis is "*The museum as a learning arena for the kindergarten. Examples from Norway and Greece*".

I would be very grateful if you could complete this questionnaire, in order to provide me information regarding the concepts of kindergarten teachers in Norway (and Greece) about learning at the Museum.

The information obtained is strictly confidential and anonymous.

Thank you for your co-operation.

With regards

Maria Dardanou

## QUESTIONS

**1.** What is your sex?

Male

Female

**2.** What is your educational level?

Academy of Pedagogy  University  Equal Degree

Master/Phd  Univesrtity/College

**3.** How many years of working experience as a kindergartner teacher you have?

1-5  6-10  11-15  16-20  Over 21

**4.** Have you received any kind of knowledge concerning learning in the Museum (Museum Education)?

Yes

No

**5.** If yes, please tick all appropriate boxes

Graduate studies

Seminar

Conference

Training- course

Other

If other, please describe briefly.....

.....

**6.** How often during a school year do you attend with your classroom children an educational program carried out in a museum?

Once a month  2-3 times per year

Once a year  Never

**7.** Are you aware of the educational programs offered by the museums of your city?

Yes  No

**8.** To what extent do you think that your kindergarten children will have increased or acquire skills during their museum visit or after attending an educational museum program?

Not at all  Little  Enough  Much

**9.** Which of your national curriculum fields do you think that could be related with the museum in order to accommodate the cooperation between kindergarten and museum?

Subjects	
.....	<input type="checkbox"/>

**10.** During your working experience as a kindergarten teacher have you ever used the museum by any means (visit, educational program, visual material, etc) for the purposes of your everyday program and in relation with your National curriculum?

Yes  No

**11.** If yes, mention in what way

.....  
 .....  
 .....

**12.** What are the reasons for not visiting or attending an educational program in a museum more often with the children of your kindergarten? (please tick appropriate boxes)

Lack of museums' offers

Economical

Lack of information from the museums

Organization reasons

Lack of personal interest

Security reasons for the children

Other

If other, please describe briefly.....

.....

**13.** Have you ever been yourself the educator of a designed program for your classroom children carried out in a museum?

Yes

No

**14.** If yes, can you mention the subject (or project) / subject from the curriculum it concerned?

.....

.....

**15.** According to your opinion, what do children gain from their participation in an organized educational museum program?

.....

.....

Thank you for the co-operation!