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Μία συγκριτική διερεύνηση των απόψεων μελλοντικών επαγγελματιών νηπιαγωγών στην Ελλάδα και τη Νορβηγία, σχετικά με τη μάθηση και το παιχνίδι στους εξωτερικούς χώρους

Γεωργία Γκέσιου (Georgia Gessiou), Μαρία Δαρδανού (Maria Dardanou), Μαρία Σακελλαρίου (Maria Sakellariou)

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A comparative research on Greek and Norwegian prospective early childhood professionals' views on outdoor learning and play

Γεωργία Γκέσιου
Υπ. διδάκτωρ, Παιδαγωγικό Τμήμα Νηπιαγωγών Πανεπιστημίου Ιωαννίνων
Μαρία Δαρδανού
Λέκτορας, Ινστιτούτο Εκπαίδευσης και Παιδαγωγικής Αρκτικού Πανεπιστημίου Νορβηγίας
Μαρία Σακελλαρίου
Καθηγήτρια, Παιδαγωγικό Τμήμα Νηπιαγωγών Πανεπιστημίου Ιωαννίνων

Περίληψη
Η παρούσα εργασία διερευνά σε ένα συγκριτικό πλαίσιο τις απόψεις των υποψήφιων νηπιαγωγών στην Ελλάδα και στη Νορβηγία σχετικά με τη μάθηση και το παιχνίδι στους εξωτερικούς χώρους. Οι νέες τάσεις της μάθησης δημιουργούν την προσδοκία ότι οι εκπαιδευτικοί θα πρέπει να συνδέουν την εκπαιδευτική πραγματικότητα με τα εξωτερικά περιβάλλοντα μάθησης και να δίνουν συχνές ευκαιρίες στα παιδιά για επαφή με τη φύση. Ωστόσο προσφέρει το πρόγραμμα σπουδών και η παιδαγωγική κατάρτιση των υποψήφιων νηπιαγωγών ευκαιρίες έτσι ώστε να αποκτήσουν τις ιδιαίτερες γνώσεις και δεξιότητες για την δημιουργία και υποστήριξη ποιοτικών εκπαιδευτικών πρακτικών στους εξωτερικούς χώρους; Η συγκεκριμένη έρευνα έχει μία ποσοτική συγκριτική προσέγγιση χρησιμοποιώντας ατομικά ερωτηματολόγια που συμπληρώθηκαν από φοιτητές παιδαγωγικών τμημάτων στην Ελλάδα και Νορβηγία (Παιδαγωγικό Τμήμα Νηπιαγωγών Ιωαννίνων, Ελλάδα και Πανεπιστήμιο του Τρόμσο, Νορβηγία). Είναι πολύ σημαντικό να εισέλθουν περισσότεροι παράγοντες στην έρευνα, όπως οι κοινωνικές και πολιτισμικές διαφορές, το εκπαιδευτικό σύστημα και οι πολιτικές. Για το σκοπό αυτό, η έρευνα αυτή επεκτείνεται σε χώρες που είναι γνωστές για τους παραδοσιακούς δεσμούς της κουλτούρα τους με τη φύση και τις δραστηριότητες σε εξωτερικά περιβάλλοντα, όπως η Νορβηγία. Τα ευρήματα πιστεύουμε θα έχουν συνέπειες σε θέματα πολιτικής και πρακτικής και θα δημιουργήσουν ένα εύφορο πεδίο νέων θεωρητικών συζητήσεων για την μάθηση και το παιχνίδι στους εξωτερικούς χώρους και για τις δύο χώρες.
λέξεις-κλειδιά: προπτυχιακοί φοιτητές, μάθηση και παιχνίδι στους εξωτερικούς χώρους, Ελλάδα, Νορβηγία.

Georgia Gessiou
PhD student, Dept. of Early Childhood Education, University of Ioannina
Maria Dardanou
University lecturer, Dept. of Education and Pedagogy, The Arctic University of Norway UiT
Maria Sakellariou
Professor, Dept. of Early Childhood Education, University of Ioannina

Abstract
The current research investigates the Greek and Norwegian prospective early childhood professionals' views on learning and playing outdoors, and compares the findings. The new trends in outdoor learning created the expectation that educators should engage learning with outdoors and nature, however does the undergraduate studies offers opportunities thus the future educator acquire the particular knowledge and skills that form the basis for quality practice outdoors? The research has a comparative approach using a quantitative individual research questionnaire that was distributed to undergraduate students in Greece and Norway (Department of Early Childhood Education, University of Ioannina, Greece and Department of Early Childhood Education, UiT The Arctic University of Norway, Tromsø Norway). It is of great value that more factors would enter to the research process and analysis, such as social and cultural differences, educational system and policies regarding outdoor learning and play. For this purpose, this research is extended in countries that are well known for their traditional cultural bonds with nature and outdoor activities, the Norwegian students' perceptions and practices and compare their views with Greek students' respective opinions. The findings might have implications for policy and practice and will open new theoretical discussions on outdoor learning and play for both countries.
keywords: undergraduate students, outdoor learning and play, Norway, Greece.

Introduction

The present article constitutes an aspect of our research concerns regarding outdoor learning and play in preschool years and its value and implementation in Greek educational reality. The international research encourages a clearer articulation and understanding of early childhood pedagogy, policy and practice in relation to outdoor play and learning and support cross-national perspectives (Waller et al. 2010). Regarding the structure of the present research we considered useful to investigate the context which defines the training of future preschool teachers in order to analyze and understand the limits and contradictions of the educators' intervention and of the institutional framework, in a comparative context, as it stands both in Greece and Norway.

In this study we investigate the education that future kindergarten teachers perceive during their undergraduate studies related to playing and learning in kindergarten's outdoors environments. One of the purposes of this study is to highlight the importance of the education of kindergarten teachers in a postgraduate level. Many researches have focused on practices or views of kindergarten teachers but, nevertheless, it has not been investigated on postgraduate level in none of the two countries. In order to adapt views and attitudes related to outdoor practices in the kindergarten, it is important to research

the education, practices and knowledge that the students have been introduced to during their postgraduate studies. We argue that there is a relation between the knowledge students are introduced during their undergraduate studies and the practices they will adopt later in their professional life as professional kindergarten teachers.

Current literature recognizes the importance of outdoor experiences in early learning and development, however there is a concern that current research and provision in Greece can be impoverished and inadequate since they do not enable children to play, learn and relate to the outdoor environment. In Greek literature and references, schoolyards and outside school premises associated with stereotypical activities such as physical education and in most recent years, specific bibliographic sources for teachers, are linking outdoors exclusively with environmental education (Gessiou & Sakellariou 2015). On the other hand, in Norway, issues related to physical environment appears to be discussed since the 1970s, focusing on nature and the outdoor environment (Moser & Martinsen 2010). The Norwegian kindergarten has a strong tradition of using most of the time outdoors. This is something that is underlined by the Framework plan for the content and tasks of kindergartens (Ministry of Education and Research 2011) where it is highlighted the importance of children's outdoor experiences throughout the whole year. Play in outdoor kindergarten settings is central in the Norwegian kindergarten tradition. Research show that 70% of time in the Norwegian kindergarten during the summer months is spent outdoors and during winter months around 31% of the time.

The recent UNICEF overview of child well-being in 21 countries found that those countries whose children enjoy comparatively high levels of everyday freedom prior to adolescence — the Netherlands and Scandinavia — showed the highest levels of subjective well-being and the best outcomes around family and peer relationships, and behaviors and risks (UNICEF 2007). School-age childcare in these countries is notable for the emphasis it gives on engaging, self-directed activities (Barnardo's 2006). One of the goals of early education is to enable children to play and to offer them the resources they need to do so in positive, enjoyable, and learning environments. This interrelationship is widely acknowledged in northern European countries such as Norway and Iceland, where play is seen as the basis for early education.

We built on our previous researches that have led us to formulate our current research questions. In 2015 (Gessiou & Sakellariou 2015), through a comparative quality research between Greece and Austria, we noticed that in spite of the differences that were observed in the structure and the natural elements in the outdoor settings of our sample, the educational practices and approaches followed the same directions. In both cases, outdoor learning areas were stereotyped, and were used only for motor activities and break time. In 2016, through the interviews with the kindergarten teachers, we found out that while the kindergarten teachers perceive the children's need for contact with nature, at the same time they reveal how the children are trapped indoors, the exploitation of the outdoor spaces becomes occasional and fragmentary. The approach of both the way and the frequency of using outdoors seems to be adult-centered, however the teachers recognize the ability of children to cope with complex environments (Gessiou & Sakellariou 2016). On the other hand, in Norway research has focused the late years on views and practices of kindergarten teachers related to outdoor learning and play (Hagen 2015, Hagen & Rystad 2014, Grytli 2013) where it is emphasized nature as an important play arena for kindergarten children, as well as kindergarten as a promoter of outdoor activities and the role of the kindergarten staff in enhancing children's experiences and activities in outdoor settings.

The appearance of new, experiential teaching approaches opposes to the existing pedagogical model that according to Freire isolates live experiences and leads teachers to "reduce their pedagogy to a form of middle-class narcissism" (Oikonomou 2012: 1; Freire 2005: xiv). Outdoor education is an approach that emanates from the field of experiential learning and represents an interesting alternative teaching strategy for schools and universities, which is conducted in outdoor places. The new trends in outdoor learning created the expectation that educators should embrace and use outdoors in the everyday school life. As a result of this process, we have come to realize that, apart from the ideological issues and the scientific facts that raised by our previous researches, concerns about outdoor learning and play and its successful implementation in educational reality revolve around issues and broader questions about the nature of initial teacher training. It is of a great value for the current international research to be extended in countries that are well known for their traditional cultural bonds with nature and outdoor activities, for instance, the Norwegian students' perceptions and practices relevant with the approach and compare their views with Greek students' respective opinions. In that case, we value that more factors would enter to the research process and analysis, such as social and cultural differences and educational systems in outdoor learning and play. Our theoretical framework that will be presented in the next chapter is based on ecology theory of Bronfenbrenner, in order to investigate the influences of different factors on undergraduate students' views and attitudes and on their future practices. Additionally, Gibson's theory of the affordances will be explored to investigate the opportunities students see at the outdoors settings in the kindergarten for play and learning and how those may influence their future practices.

Theoretical framework

Urie Bronfenbrenner's ecological theory

The ecological theory of Urie Bronfenbrenner underlines an interdisciplinary approach in early understanding of human development. Environments of importance to the development process are first and foremost the concrete, daily primary group settlements. Impact and interaction, however, are not limited to these immediate situations. It also includes dynamic interaction processes in the relations between such situations as well as in the narrower influence that results from larger ones surroundings. Bronfenbrenner perceives the environment as a series of coherent structures where one forms the core of the other (Bronfenbrenner 1979). Significantly, regarding the systems in the ecological model of Bronfrebrenner, ''simply put, things need to come together just at the right time for an individual to develop. Similarly, individual or multi-system factors can neutralize any attempt to work towards this inspiration'' (Lewthwaite 2011: 10). Those systems are named micro, meso, macro, and exo system.

Microsystem is the innermost circle in the system. Primarily is micro a situation where two or more people meet in interaction face to face. Bronfenbrenner gives this definition: "a pattern of activities, roles and interpersonal relationships that the individual experiences in a given setting with its particular physical and material characteristics" (1979: 22). In other words, the microsystem constitutes all the situations where the person is present, doing something himself and being influenced by others. As it appears, an individual is never only influenced by one environment, but by more at

the same time. The mesosystem is defined as the relationship between two or more environments the individual actively participates in. Mesosystem is therefore to be understood as a system or network of micros that the individual commutes between. Finally, by macrosystem is meant the pattern of values, traditions, economic conditions, social structures, and ideologies that exist in a culture and subculture. Fiber from this pattern goes into the "lower" systems (micro, meso and exo), it binds all of them and puts its mark on everything in our interaction and environment (Bronfenbrenner 1989; 1994).

In this study, as we are investigating students' views, attitudes and practices related to learning and play in outdoors settings, we will explore the interactions between the micro and the macro system. Concerning the micro system, we are studying the concepts that help capturing both the structural characteristics of the students' practice placements and the processes they develop in these settings and in relation with the learning development of the students. On the same time, as it also concerns the relations the students develop the particular physical and material outdoor environment. Additionally, the macro system, which includes the values, beliefs and views related to the construction of a society are connected with the policies that are created by the higher educational institutes (for example the national or local study plans).

Finally, the aim of this study is to explore, in a comparative level, the views of the future kindergarten teachers about their study plans and the curriculum of the prospective kindergarten teacher (macro-system) as well as the views and the practices of the prospective kindergarten teachers (micro-system) regarding outdoor learning and play in Greece and in Norway.

The theory of the affordances

'Affordance' is a central construct of ecological perceptual psychology. Gibson's (1979) first description of affordances is deceptively simple:

"The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill" (Gibson 1979: 127).

It is a definition referring to 'the physical opportunities and dangers which the organism perceives while acting in a specific setting' (Kyttä 2004: 181). According to Gibson (1979) an affordance is an action possibility formed by the relationship between an agent and its environment.

"An affordance cuts across the dichotomy of subjective-objective and helps us to understand its inadequacy. It is equally a fact of the environment and a fact of behavior. It is both physical and psychical, yet neither. An affordance points both ways, to the environment and to the observer" (Gibson 1979: 129).

There is a possibility of an action, a 'potential action' in the meeting with the environment. It is not only about what the environment has to offer but also the ways a person is taking in use those opportunities (Nye & Silverman 2012). Gibson's theory is related to theories of the perception. The way an affordance is perceived is related to the perceiver and different perceivers interact differently with the affordances. Previous perceptions are important for next experiences. Affordances are relational concerning the relationship between a perceiver – and the environment.

Gibson's theory of affordances has been related to research regarding outdoors environment in early childhood settings in Norway. (Hagen 2015, Fjørtoft 2013, Bjørgen 2012). Affordances are connected to the relation between the child and the surroundings; it is related to what the child sees as opportunities in the environment,

what the child is attracted to, what the physical environment has to offer regarding what the child experiences and sees (Lundhaug & Neegaard 2013). In our study we will investigate how students identify the affordances of the outdoors environment at their practice placement kindergarten and how they perceive, evaluate include in their own practices those opportunities the outdoor settings provide.

The Norwegian Framework and Outdoor Learning- Play

The kindergarten and the curriculum

In the Norwegian kindergarten, attend children of ages 1-5 years old. The Norwegian kindergarten is not mandatory for children, but over 96% (Norwegian statistics 2016) of children at the ages 3-5 years old attend the kindergarten. Children are divided usually in mixed age groups. The Norwegian kindergartens are approximately 50% private and 50% public. The kindergarten is integrated in the educational system. The opening hours can vary, but most of the kindergartens are open between 07.30 in the morning until 16.30 in the afternoon. The normal situation is 1 kindergarten teacher and 2 assistants per group of children.[1] The kindergarten follows the Kindergarten Act that was implemented in 2005 and has incorporated regulations related to the laws and rules of the kindergarten's operation (Ministry of Education and Research 2005). The main concepts that the kindergarten is based on are children's development, play, activity, learning, formation and participation and focuses at the holistic development of the child.

In Norway it is tradition that children use most of their time in the kindergarten outdoors, independent from the weather conditions or the profile of the kindergarten. The outdoor settings of the Norwegian kindergarten are characterized of a variety of playing equipment and with natural constructions (for example swings, tents, balance beams, wooden houses, wooden boats, lavvo, etc.). Trees or natural structures for climbing, concentration areas are placed in almost all Norwegian kindergartens. The outdoor area is very often in a satisfactory level for providing children opportunities for a variation in free play activities. It not a rare phenomenon that the kindergarten has with easy access to nearby open spaces (forest, beach, etc.). The kindergarten outdoor spaces are available for individual use by children or families after the opening hours of the kindergarten (Picture 1 & Picture 2).

Picture 1: Outdoors in a Norwegian kindergarten Natural elements included for children's free play and activities. Spaces for group meetings, use of natural elements (Photograph Georgia Gessiou)

[1] The number of children in each classroom varies in relation to the age of the children; the number of 14 children in the ages 1-3 years old with four adults in the classroom (two with higher kindergarten teacher education and two with lower pedagogical education or uneducated assistants) and up to 20 children of the age 3-6 years old with three adults in the classroom (one with higher kindergarten teacher education and two with lower pedagogical education or uneducated assistants).

Picture 2: Spaces for group meetings, use of natural elements, a place for lighting a fire (Photograph Georgia Gessiou)

It is also significant to mention that children are everyday out as a part of the everyday routines and not as a break or disintegration of the other activities. Last, but not least, it is important to assess the value of the development of kindergartens from a child's perspective (Haug & Storø 2013).

The Framework plan for the content and tasks of kindergartens[2] (2011) is the framework the Norwegian kindergarten where there are emphasized the principles for operation as well as the relevant laws for the kindergarten. The framework is distinguished in seven interdisciplinary areas.[3] The framework emphasizes explicitly to children's participation in all the processes of their everyday life in the kindergarten. The interdisciplinary areas of *Nature, environment and technology* is the one that is mostly focuses in the use of outdoors settings in the kindergarten, but there also found elements in the areas of *Local community and society,* as well as the area *Body, movement and health*.

The Early Childhood teacher education in Norway

The educational institutions in Norway that educate future kindergarten teachers are universities or university colleges. The length of the studies are three years. All the institutions follow the National regulations/curriculum for kindergarten teacher education (Ministry of Education and Research 2012a). The kindergarten teacher education shall qualify the candidate to exercise the profession of kindergarten teacher in a society characterized by diversity and change. The learning outcome is formulated based on the national qualifications framework for higher education, bachelor degree (Ministry of Education and Research 2012b).

The education will ensure interaction between high academic, didactic and social competence as well as the ability of professional ethical reflection in pedagogical work with children in kindergarten. Education will emphasize also in educational management of kindergartens. More specifically, education will take into account the role of kindergarten teacher in early childhood education in consideration to the child's versatile development (Ministry of Education and Research 2012b). Education will emphasize on the increased diversity in kindergartens, including increased proportion of children under three years, children with special needs and multilingual children.

[2] This framework will be replaced from 1st August 2017 by a new framework, where the main principles and interdisciplinary areas remain the same.

[3] Those areas are: Communication, language and text (1), Body, movement and health (2), Art, culture and creativity (3), Nature, environment and technology (4), Ethics, religion and philosophy (5), Local community and society (6) and Numbers, spaces and places (7) (Ministry of Education and Research 2011).

Education will emphasize the importance of cooperation, understanding and dialogue with children's parents and others responsible for childhood growth (ibid).

According to the curriculum, the students attending the undergraduate studies have seven interdisciplinary mandatory courses[4] and two optional (1) and reinforcement (1) courses[5] that may vary for each institution. During the three years of their education, the kindergarten teacher education students will have totally 100 days of practice[6] in kindergarten. All the interdisciplinary courses are followed by seminar that the students are actively involved in practical assessments related to each course. The courses that are related to or include elements for outdoors learning and play are *Nature, Health and Physical Education, Mastering the outdoors for every child in preschool and Nature, Play and Learning in pre-school.* The students obtain knowledge regarding-among others- children's learning strategies in play and activities in nature, how attitudes and practices related to sustainable development can be established in the kindergarten and how nature and local environment can be used as a learning arena (The Arctic University of Tromsø 2015). Central to this work is outdoor life, nature experiences and introduction to strategies, methods and activities as a basis for children's play and learning in different environments.

Greek Framework and Outdoor Learning- Play

Greek Curriculum Framework

The Greek educational system is primarily based on traditional education methods and approaches. However, the last few years there has been an effort for the school curricula to become more attractive, progressive and to meet the current needs of the students. The curriculum reform was launched during the period 2001–2003, as an attempt to treat some of the dysfunctional symptoms and anachronistic issues of the Greek educational system, like traditional field-centred curricula and teaching strategies (MoE/PI 2002). The implementation of the objection of a new curriculum was undertaken by the Pedagogic Institute (PI), an organization supervised by the Ministry of National Education and Religion, with competences in the field of the curriculum, textbooks and the retraining of teachers. The new preschool curriculum is part of the three-volume national curriculum framework (*Cross-thematic Curriculum Framework Syllabus Design*, MoE/PI 2002) for all grades and subject areas of the compulsory education. This curriculum is decided centrally by the Ministry of Education and is applied throughout the country, even in private schools (Katsarou & Tsafos 2009).

[4] Those seven interdisciplinary mandatory courses are: Children's development, play and learning (1), Language, text and mathematics (2), Art, culture and creativity (3), Society, religion, and ethics (4), Nature, health and physical Education (5), Management, collaboration and development (6), and Bachelor's Thesis integrating methodology and theory of science (7) (The Arctic University of Tromsø 2015).

[5] In the Arctic University of Norway, the optional courses are: Leadership and management in pre-school (1), Language stimulation for mono- and bilingual children aged 1-6 (2), Digital literacy in preschool (3), Mastering the outdoors for every child in preschool_(4), Activity and Nutrition in pre-school (5), Infant and toddler childhood education (6), and Music and drama in pre-school (7).The reinforcement courses are: Nature, play and learning in pre-school (1) and Language and communication in pre-school (2) (The Arctic University of Tromsø 2015).

[6] The days of practice in kindergartens are divided in : 40 days of practice during the first year of studies, 35 years of practice during the second year and, finally, 25 days of practice during the third year (The Arctic University of Tromsø 2015).

From the first Gazette for preschool education (Ν. ΒΤΜΘ', ΦΕΚ Α 37 - 05.10.1895) that was published in Greece until the last curriculum, we can only notice three Gazettes that shed light on the outdoor learning and play, where we can find many references on the importance of gardening. (Β.Δ. 68, ΦΕΚ Α 68 - 23.05.1896; ΦΕΚ Α 124 - 09.08.1926; ΦΕΚ Α 132 - 31.05.1980). In current Greek literature and references, schoolyards and outside school premises associated with stereotypical activities such as physical education and in most recent years, specific bibliographic sources for teachers, are linking outdoors exclusively with environmental education. It is an undeniable fact that environmental education can be seen outdoors - in green spaces, and it consists a great aspect of outdoor learning. However, outdoor learning not only serves the purpose of environmental education (Gessiou & Sakellariou 2015). The same statements are also supported by Oikonomou's research (2012), in which half of the Greek academics that participated also defined outdoor education as environmental education. It is obvious then, that the Greek references including outdoors - schoolyard areas originate mainly from centers / institutions or programs of environmental education and depict these spaces on activities of Environmental education, disregarding the multidimensional character of the approach that includes several aspects and hosts not only natural but also cultural and social relations.

Three years after curriculum's publication in the Government journal in 2003, the MoE/PI published a 431 page-long book, the *Preschool Teacher's Guide*, to guide preschool teachers in the implementation of the new preschool curriculum (Dafermou et al. 2006). The publication of a long, detailed document accompanying the curriculum seems to compensate for insufficient teacher training on the new curriculum guidelines, in an attempt to bridge the gap between a confused and vague theory and the real and complex practice (Sofou & Tsafos 2010). Only 18 pages out of the 431 page-long book are referring to the "the importance of planning and organizing of the learning environment" and refers to the "the systematic opportunities that children need to have in order to interact with their natural and social environment" (Dafermou et al. 2006: 19). In a closer look, only 1 and a half page is dedicated to the importance of the outdoor learning environments. This extremely small reference is justified as follows: "despite the great importance of the outdoor learning environments, the focus of the chapter is drawn on the indoor places since the educational activities of the national curricula are developing inside the classroom" (Dafermou et al. 2006: 57). In the second part of the book, which refers to the design and development of the educational activities, it is clarified that the focus will be paid on the areas of language and math learning (Dafermou et al. 2006).

Early childhood teacher education in Greece

The curriculum of university Departments of Early Childhood Education is largely dominated by a focus on pedagogy and educational sciences. Students attend courses on general pedagogical knowledge, this knowledge is usually transmitted using a conventional, didactic approach in lectures where educators talk and students listen. As Kourti and Androussou mention "this tradition does not allow for the kind of personal reflection likely to lead to developmental change in trainee teachers' understanding of teaching and learning. Nevertheless, education students are expected to assimilate new ideas and processes that relate to educational theory and practices" (Kourti & Androussou 2013: 195).

Each university department has its own curriculum and based on the offered subjects and lectures we can notice that there is no clear relevance to outdoor learning and play. There are only links and references to the subjects of Natural Sciences, Environmental Studies and the subjects that cover the motor skills and physical activities topics. Oikonomou based on her research findings supports that even if academics in Greek universities acknowledged several benefits that outdoor education provides to their students (as the stimulation of all their senses, the connection of theory with practice and the promotion of social relations and health), they justify their choices not to practice outdoor lessons by giving credits to the unsuitable Greek educational system for accommodating alternative approaches. It is a matter of educational culture, insufficient pedagogical training, inadequate infrastructure and human resources and time restrictions. "These reasons seem more than enough to support academics' choice as they constitute realistic impediments" (Oikonomou 2012: 47). Thus it seems that the vague created between the outdoor environments and their learning importance results of a university education that is somehow 'undermined' from the outset by inherent weaknesses in different departments' curricula to practically implement this and also by some academics' reluctance to understand and achieve it.

The present study

The aforementioned theoretical context and our research background triggered the conduction of the current research and contributed to the formation of our basic research questions. At first, we approached in a macro system the outdoor learning and play both in Greek and Norwegian countries investigating the national policies, gazettes and curriculums that have an effect to the training of the future kindergarten teachers with reference to the outdoor learning and play. Moving to the micro system our aim is to investigate and reflect the perceptions and experiences of the undergraduate students on outdoor learning and play. The research questions that were formed are the following:

1. What are the undergraduate students' perspectives on outdoor learning in Greece and Norway?
2. Are their views and practices being influenced of their undergraduate training on the outdoor learning and play?
3. What are their views regarding the outdoor kindergartens' environments in each country?
4. What are their suggestions about the design and the structure of the outdoor learning environments?

Research method and tools

The research has a comparative approach using a quantitative individual research questionnaire that was created by the authors and was distributed to undergraduate students in Greece and Norway (Department of Early Childhood Education, University of Ioannina, Greece and Department of Early Childhood Education, UiT The Arctic University of Norway, Tromsø, Norway). The questionnaire instrument was consisted of overall 47 questions of which the four were open, five were ranking questions and the rest were closed question using the 5-point Likert scales (Anderson 2004).

The questionnaire had the following structure:

- Demographic and Introductory Questions
- Personal experiences on outdoor learning and play
- Links to the Kindergarten curriculum and the Preschool Teacher's Guide
- Links to the pedagogical training and university education of the students
- Experiences from the period of their internships
- The affordances and the features of the outdoor environments where they completed their internship.

It worth mentioning that the elements of our research tool waere adapted to the contexts of each country (Greece and Norway)

Sample

As mentioned before the questionnaire was distributed to undergraduate students in Greece and Norway:

- Department of Early Childhood Education, University of Ioannina, Greece,
- Department of Early Childhood Education, UiT The Arctic University of Norway, Tromsø Norway

In both cases the questionnaires were distributed and collected online using the software tool Survey Monkey. Respondents were informed about confidentiality and the right to withdraw and informed consent was gained through the students opting in to completing the questionnaire.

The questionnaire was only addressed to the undergraduate students that had completed their mandatory internship. In the sample of each country, we reached up to 70% of the overall population, a fact that gives as sufficient precision. The response rate of 70% is characterized as very good (Babbie 1990). In Greece the 98% of the sample were female and in Norway 32,69% were male and 67,31% female. Another significant difference between our sample is that the majority of Greek students (79,5%) was under 22 years old, in contrast to the Norwegian students that only 19. 28% of them was under 22 years old, and the majority (57, 83 %) was between 23- 30 years old. This fact is due to that many of the students may have already previous experience as assistants in kindergartens and now they study in order to be kindergarten teachers. On the same time, in Norway, people often decide to study in the late twenties, as a first or second bachelor degree.

Analysis of the results

The analysis of our data will be represented based on our research questions.

Research Question 1

What are the undergraduate students' perspectives on outdoor learning in Greece and Norway?

Approximately the 55% of the Greek students neither agree or disagree that the learning process can be more effective indoors in our question 27 (*Q.27 Do you think that the learning processes and organized activities are more successful indoors than outdoors?).* We can relate students' uncertainty in Q.27 to the Q. 9 (*Q.9 Most of your*

memories as a student in the school's daily routine were linked to outdoors, e.g. school yard, forest, nature excursion) where 40% of them neither agree or disagree that their memories from their school years are connected to outdoors, and also to question 16 (*Q.16 Kindergarten curriculum and the Preschool Teacher's Guide focus on the importance of Learning and Playing Outdoors*) where 55% of the them respond that neither agree or disagree that the Kindergarten curriculum and the Preschool Teacher's Guide emphasize on the importance of learning and playing outdoors.

On the other hand, only 21% of the Norwegian students neither agree nor disagree that the learning process can be more effective indoors and 43% strongly disagree/ disagree. Relating this question to the Q.9 and Q. 16 as we did before for the Greek sample it emerges that the 73% of the Norwegian students strongly agree/agree that their memories from their school years are connected to outdoor places (Q. 9), and 68% of them strongly agree/agree that the Kindergarten curriculum encourages and promotes the outdoor environments as sites of learning and play (Q. 16).

Overall, it is clearly appeared that Norwegian students evaluate better and with more certainty the outdoor learning environments than the indoors and this result can be related to their experiences as kids during their school years and the fact that they were closely connected to outdoors. It is moreover remarkable that in their biggest percentage Norwegian students believe the Kindergarten's curriculum supports outdoor learning and play, in contrast to the Greek students that cannot respond to this question with certainty.

Research Question 2

Are their views and practices being influenced of their undergraduate training on the outdoor learning and play?

Table 1. Q.21: The Department's Curriculum provides courses for your training that will help you as future teachers to manage the risks that can arise from the outdoor play?

Question 21		
Answer Options	**Response Percent/ Greece**	**Response Percent/ Norway**
Strongly disagree	7,58 %	0,00 %
Disagree	**28,28 %**	5,95 %
Neither agree or disagree	**44,44 %**	38,10 %
Agree	17,68 %	**39,29 %**
Strongly agree	2,02 %	**16,67 %**

It is clearly obvious from the data in the table 1 that the Norwegian students *(55,96% Strongly agree/ agree),* based on their undergraduate studies and courses, feel more comfortable and ready to manage the risks that may emerge through outdoor play, than

the Greek student *(35, 86 % strongly disagree/ disagree and 44,44% Neither agree or disagree).* Our assumption that Norwegian students can cope with the outdoor learning environment with more professional confidence and consistency is also supported by the data of the table 2 below, where the majority *(75.90%)* strongly agree/ agree that their university training and studies have equip and prepare them in such way, thus they can support children's learning and play outdoors. On the contrary Greek students can not reply with certainty *(43,72% neither agree or disagree)* that their university background can support them as professional educators to integrate the outdoors in the daily school life, and approximately *30% of them strongly disagree/disagree.*

Table 2. Q.22: Through your university training do you feel ready to prepare and support children's learning and play outdoors

Question 22		
Answer Options	**Response Percent/ Greece**	**Response Percent/ Norway**
Strongly disagree	**4,52 %**	0,00 %
Disagree	**24.62 %**	1,20 %
Neither agree or disagree	**43,72 %**	22,89 %
Agree	24,62 %	**50,60 %**
Strongly agree	2,51 %	**25,30 %**

Research Question 3

What are their views regarding the outdoor pre-school environments in each country?

In question 45 of the questionnaire (Table 3) we see that 73,41% of the Norwegian sample has answered that they Strongly agree/agree that in the outdoor environment of the kindergarten in their practice placement, nature and natural elements prevailed. On the other hand, on the same question, only 33,86% of the Greek sample answered that they Strongly agree/ agree with this statement. Remarkable is the answer on Strongly disagree/disagree where the Greek students answered with also 33,80% and the Norwegian with 2,54%. All opportunities for action that lie latently in the environment refers to all elements of an environment that inspires activities.

Table 3. Q45: The overall impression of the outdoor areas of your practice placement kindergarten gave the feeling that nature and natural elements prevail

Question 45		
Answer Options	**Response Percent/ Greece**	**Response Percent/ Norway**
Strongly disagree	**11,64 %**	0,00 %
Disagree	**21.69 %**	2,53 %
Neither agree or disagree	**32,80 %**	24,05 %
Agree	29,63 %	**50,63 %**
Strongly agree	4,23 %	**22,78 %**

The students in both countries were asked to identify more specifically the natural elements that were found at the outdoors settings of their practice placement kindergartens (Table 4). A variety of trees was reported by *72 %* of the *Norwegian* students; topographic variations (such as hills, etc.) was answered by *74%* of the sample, as well as variety of safe ground surfaces (for example grass, gravel, etc.) given by *70%* of the sample. *45%* of the *Greek* students answered that the outdoor setting of their practice placement kindergarten had a variety of trees; *19,3%* had a topographic variation and *51%* had a variety of ground surfaces. Those results show a variation between the kindergarten outdoor settings of students practice placement.

Table 4. Question 46: Select which of the following items you found in the outdoor settings of the kindergarten

Question 46		
Answer Options	**Response Percent/ Greece**	**Response Percent/ Norway**
Variety of trees	45,34 %	67,09 %
Smooth stones	16,15%	41,77 %
Topographic variations (such as hills, etc.)	19,25 %	70,89 %
Variety of safe ground surfaces (for example grass, gravel, etc.)	57,14 %	78,48 %

Research Question 4

What are their suggestions about the design and the structure of the outdoor learning environments?

The last question of the questionnaire was an opened question where the students were asked to describe briefly an ideal outdoor space in kindergarten that promotes children's play and learning. According to the answers given by the Greek students *94%* of the responses included the element of nature, *31%* of these the element of sand ("*Sand for play*", "*sand corner*", "*sand and green")*. Moreover, *only 13%* referred to security issues ("*to combine comfort and safety*", "*large and safe space.*" , "*Suitable for learning and safe play*"). On the other hand, some of the answers from the Norwegian students were, "*trees for climbing, big stones, slopes / hills, flora*", "*an outdoor space where we can find elements of both natural play areas and stationary play equipment. Physical variety of playgrounds encourages children's creativity in free play*" and "*a wide range of climbing, balancing, exploring, using sensations and free play*". We can see that free play and the opportunities that the environment is providing to children as given by some of the Norwegian students. Moreover, the Norwegian students seem to take into consideration the variety the environment should offer to children. In that way it is expanded also the variety of the activities organized by the kindergarten teachers, as well as the variety of free play for children. Greek and Norwegian students refer to outdoors space as a safe place, where children could climb, balance, explore, where children can be challenged to use their senses and develop physically. Those beliefs and views are common for the participant students.

Discussion

The last few years our central research concern is "why outdoor learning and play is missing from Greek educational reality?" Through our previous researches we came to the conclusion that is of great value that more factors would enter to the research process and analysis, such as social and cultural differences, educational system and policies regarding outdoor learning and play. For the purpose of the current research, we considered that the current international research should be extended in countries that are well known for their traditional cultural bonds with nature and outdoor activities, for instance, the Norwegian students' perceptions and practices and compare their views with Greek student's respective opinions.

Based on our analysis on the Greek Framework compared to the Norwegian we have come to the conclusion that the teacher-centered pedagogy and 'conservative' approach to Greek teacher training that remains prevalent, in line with the overall Greek educational system undermine the introduction of the new pedagogical era that considers outdoor learning and play as an integral element in the educational reality. Additionally, based on our data analysis, it is clearly obvious that Greek students' responses confirm our previous statement that a cause- effect framework isn't established either in the Preschool curriculum or in the Preschool Teacher's Guide, since the long term benefits and effects on outdoor learning are not addressed. The Greek references on educational value of outdoor environments are not cohesive, and are irrelevant to daily kindergarten's program. The references mentioned can be described as some recommended additions to the daily program (Gessiou & Bitou 2016)

According to the answers given by the students in both countries we can see that there is a relation between students' earlier experiences as children and their views and attitudes towards the use of outdoors settings that may also affect their future practices as professional kindergarten teachers. The analysis of the opened question related to their suggestions about the structure and design of outdoors areas in the kindergarten, is an evidence that culture and early experience may affect future views, attitudes and practices. The Norwegian students, as they are more experienced with the contact with nature, value the outdoors as environments that provide children challenges. Therefore, experiences in microsystems, like students' earlier experiences in their own school, kindergarten, neighborhood, etc. may affect their views and attitudes as a part of a society, in the macrosystem (Bronfenbrenner 1994).

Participant students from both countries in this survey have overall positive views and attitudes in the offers the outdoors settings in the kindergarten offer for kindergarten teachers' practices. According to the results of the research, students identify affordances of the environment in outdoors places for play and learning. All opportunities for action that lie latently in the environment refers to all elements of an environment that inspires activities. Opportunities for different actions are based on individual factors, such as experiences; those opportunities in this context are qualities in the environment, expressed in terms of the meaning or values the environment has for the individuals involved (Gibson 1979). Therefore, the opportunities the students identify in the environment provides the opportunities for practices, values or attitudes that may affect their future professional role.

As a conclusion to our research, we have formed some suggestions that might have implications for policy and practice and will open new theoretical discussions on outdoor learning and play for both countries:

- *Systematic reinforcement* of the country's future teachers should act as a lever to change the system from *bottom to top*
- *Collaboration* between all university departments is needed in order to develop a common understanding of the content and delivery of initial training for kindergarten teacher education programs in relation to outdoors learning and play.
- Cooperation between the state, universities and the teachers themselves. A *systematic and dynamic dialogue* between teachers and researchers, universities and kindergartens is essential.
- Institutional conditions that will allow kindergarten teachers to act differently in kindergartens and broaden outdoors learning and play.
- A continuous participatory in-service training program that will meet the evolving demands of kindergarten teachers.

It appears to be increasingly crucial if we are to make changes in the educational reality of our kindergartens and try to give to the new generation the opportunity to play and learn outdoors, to *create in our universities the conditions that can "persuade" future teachers to move beyond the current rigid point view of* conservative teaching (Kourti & Androussou 2013: 202). And we support that this effort is mirrored by the student's feelings of self-efficacy and self-worth in order to support and promote outdoor learning and play.

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Image Sources

Pictures 1, 2: Personal collection of G. Gessiou.
Tables 1-4: Personal collection of G. Gessiou.