Not Just a Walk in the Park: Case Study of a Greek Preschool Located on an Educational Farm

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Abstract

This paper presents a case study of a private preschool in Thessaloniki, Greece. The school, located at the unique setting of an educational farm, has a curriculum focus on environmental education. An analysis of teacher interviews and lesson plans in the span of three years presents insights into the barriers teachers faced in implementing their environmental education curriculum, and the developments that occurred within this timeframe. Environmental education was found to not just be "a walk in the park," but a personal growth journey for the teachers and the school as a whole. Teachers' experiences implementing environmental education did not only improve their teaching methodology overall, but created a community of practice within the school.

Le présent article expose l'étude de cas d'une école maternelle privée à Thessalonique, en Grèce. Cette école, située dans le contexte unique que constitue une ferme éducative, est dotée d'un programme axé sur l'éducation environnementale. L'analyse d'entretiens d'enseignants et de plans de cours sur une durée de trois ans, à l'aide d'un outil d'analyse de données qualitatives assisté par ordinateur, a donné des éclaircissements sur les obstacles qu'ont connus ces enseignants dans la mise en œuvre de leur programme d'enseignement environnemental et sur le cours des évènements pendant cette période. L'éducation environnementale n'était pas seulement une « promenade de santé », mais aussi une aventure où les enseignants et l'école ont pu grandir. L'expérience des professeurs dans la mise en œuvre de l'éducation environnementale a non seulement amélioré leur méthode d'enseignement en général, elle a également créé une communauté de pratique au sein de l'école.

Keywords: environmental education, early childhood education, farm-school, community of practice, case study, interviews

Introduction

Current State of Environmental Education in Greece

Environmental education in Greece is part of the National Curriculum for Kindergarten and is integrated as an interdisciplinary subject. Its aim is to increase student awareness of the impact of human interaction with the natural and social

environments, and to engage students into action to address environmental issues. The environment is perceived holistically with the inclusion of all its dimensions: natural, artificial, structured, socio-economic, and historical (OGG, 2003).

According to some Greek scholars (e.g., Malandrakis & Chatzakis, 2014; Valavanidis & Vlachogianni, 2011), the current state of environmental education in Greece is problematic. In general, the Greek educational system is rigid in form and many decisions are made "from above." Environmental education has brought new and pioneering educational practices in Greece but as a consequence, teachers and educational policy officials end up "baptizing" many projects applied at school as environmental education without special regard to their context. Apart from that, environmental education programs in Greece often lack the appropriate teaching methodology and have a narrow, technocratic focus that excludes social and political viewpoints (Chatziparakevaidis, 2008). Malandrakis and Chatzakis (2014) summarize the current state of environmental education in Greece, highlighting the need for greater administrative and scientific support for teachers to reform curricula and improve teaching, so as to integrate environmental education in a more holistic manner.

Limiting Factors in Teaching Environmental Education

One of the most common limiting factors in teaching environmental education is a lack of proper training. Environmental education is not a standard part of teacher training programs in Greece; most universities include it as an elective, rather than a compulsory course (Flogaitis, Daskolia, & Agelidou, 2005). Generally, limited training negatively affects teachers' sense of efficacy (Moseley, Huss, & Utley, 2010; Mosthwane & Ndwapi, 2012). In addition, when teachers are not educated in environmental education, they have a narrower view of it that results in an overt emphasis on scientific concepts (Ham & Sewing, 1988). Similarly, Greek teachers tend to concentrate on scientific concepts and use textbooks to teach environmental education, with few teachers engaging in field trips or other strategies to enrich their programs (Malandrakis & Chatzakis, 2014).

Apart from training, other barriers limit the application of environmental education including a lack of time and space in the curriculum, state testing and standards that limit such activities, a lack of funding and transportation, a rigorous and strict curriculum, safety issues (Waite, 2010), and weather conditions (Ernst, 2013). Teachers may also perceive field trips in the natural environment as demanding and therefore avoid them (Passy, 2014). As Ernst (2013) has noted, teacher beliefs and attitudes towards these barriers serve as predictors of the quality of programs to be implemented and influence teachers' educational choices. Although many studies have investigated teachers' attainment of information concerning environmental education (Cotton, 2006; Ernst & Tornabene, 2012) and their sense of efficacy (Moseley et al., 2010), research exploring teachers' perceptions on their own practices regarding environmental education (e.g., Fazio & Karrow, 2013) is limited in Greece.

Exposure to Natural Settings at Schools

Teaching environmental education is improved through contact with the natural environment, especially at the preschool age. In Greece, children in urban areas live mostly in small apartment houses in a concrete surrounding and have limited exposure to green spaces. For instance, according to the report of the Organization for Economic Co-operation and Development on environmental sustainability, Greece is one of the poorest countries for its per-person green space (0, 96 m^2) (OECD, 2014).

Yet, environmental education "is more than merely getting people out of doors and introducing them to nature" (Sondergeld, Milner, & Rope, 2014, p. 283). Students need to relate their daily actions with the imprint they may leave on their environment, not just as part of a classroom project. Research shows that Greek children may have a positive attitude toward the environment but they lack understanding of environmental issues (Malandrakis & Chatzakis, 2014) and have an anthropocentric view that may not lead to taking action to protect it.

Aim and Methodology

The aim of this study was to gain an understanding of how the natural environment at a preschool on a farm surrounding affected the teachers, children, and application of environmental education. A second aim was to trace the changes that occurred for the teaching of environmental education during the first three years of the school's operation.

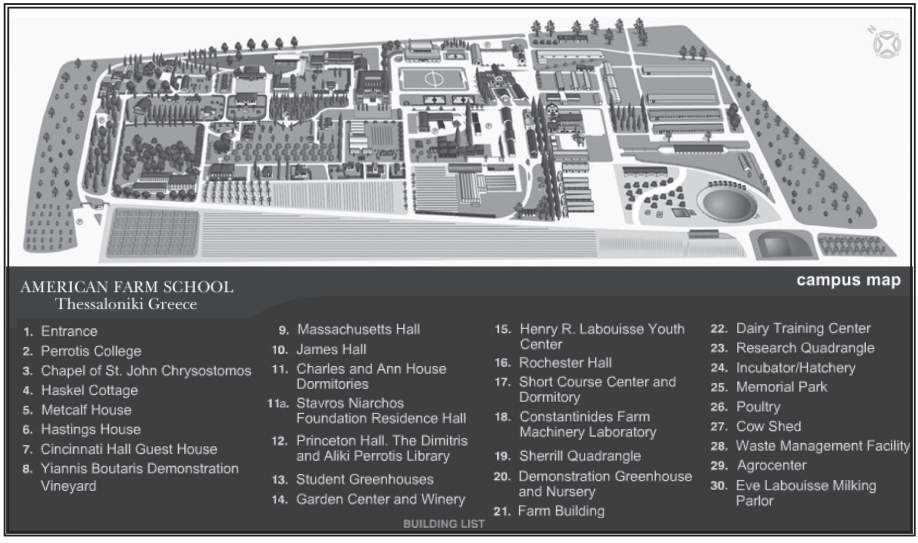

Figure 1. Map of American Farm School, Thessaloniki, Greece

Description of Setting

The preschool at the American Farm School is located in the outskirts of the city of Thessaloniki. The preschool is on the grounds of a complex of schools under the umbrella of the "American Farm School," and caters to children from 2.5 to 6 years of age. The American Farm School includes two high schools (vocational and academic), a college, a new elementary school, and a training farm as well as the preschool. The training farm has a wide range of facilities including vineyards, greenhouses, olive groves, a dairy operation, barns, a snail farm, laboratories, woods, and fields. All of these facilities and educational institutions are found within 650 acres in a gated area. Figure 1 depicts the variety of the school's grounds.

Case Study Design

A single case study method was selected because of the uniqueness of the farm school setting. The research questions point to the descriptive character of the case study and its goal in portraying a phenomenon in its real-life setting (Yin, 2013). In-depth interviews were chosen as the most appropriate method of data collection, given the qualitative nature of the data (teachers' beliefs, attitudes, feelings, and interpretation of their experience at school) (Merriam, 2009). School archives outlining teacher training in environmental education were chosen as a secondary source of data. Both interviews and documents were collected and analyzed to ensure triangulation of resources. Although generalization in case studies can only be made regarding theory and not population, triangulation with multiple sources of data strengthens the validity of qualitative research (Golafshani, 2003; Yin, 2013).

In line with ethical procedures, the research was approved by the principal, and the teachers of the preschool voluntarily agreed to participate in the study. Initially six teachers were interviewed by both researchers and were asked 14 open-ended questions concerning experience, education in environmental education, effects of the environment, barriers to teaching, and effects of environmental education and the environment on the children and themselves. Follow-up questions were conducted with specific teachers to clarify ideas and gain more information. Interviews were held in the school in April 2013, in the native language of the teachers (Greek). The interviews lasted 30-45 minutes and were transcribed by one researcher and then translated into English by the other. The English translation was back-translated by an external peer. English and Greek interview transcripts were checked for authenticity by the interviewees. A second set of semi-structured interviews was conducted in February 2015 with the teachers and principal of the school, to assess the development of environmental education at the school in the intervening two years.

In-Service Environmental Education Training

None of the teachers had any significant prior knowledge or experience with environmental education. Most of their training in environmental education occurred within the school and through their own motivation to improve their teaching. Archival research also revealed that a modular training environmental education program, conducted by an environmental education specialist, had taken place. The training occurred after a two-month observation period of the teachers and school activities. Over a one-year period, the environmental education specialist collaborated with the teachers on the design of lessons and trained the group using UNESCO's guidelines (Wilke, Peyton, & Hungerford, 1987).

The training consisted of seminars and focus group meetings about the incorporation of environmental education in the curriculum. The seminars familiarized teachers with various educational methods used in environmental education such as problem solving, values clarification, moral dilemmas, inquiry-based learning, and the use of drama. The document analysis of the seminars, the meeting minutes of the teachers' focus groups, and the educational materials shared with teachers (articles, recommendations of environmental education books and sites) revealed that the training was intended to change the general view of environmental education held by the teachers, to shift from a narrow standpoint that only incorporated recycling and gardening to a more critical, action-based, and systemic understanding of environmental education.

Data Analysis

Interviews and documents were analyzed using NVivo 7, a computer-assisted qualitative data analysis tool. Memos and journals were inputted to avoid personal biases by including reflexivity (Johnson, 1997; Ortlipp, 2008). For the analysis of the data a grounded theory approach was used, moving beyond description and into the axial coding stages where theoretical frameworks are developed (Glaser & Strauss, 1967). A detailed line-by-line analysis was conducted (Strauss & Corbin, 1998) to provide the continuous, systematic comparative review required by grounded theory. Incidents, categories, and theory were juxtaposed to formulate the axial coding. Coding was reviewed by both researchers and then discussed with a colleague at another educational institution. Following is a list of categories developed when analyzing the first set of interviews in April 2013:

a. Agricultural setting and infrastructure
b. School administration (guidelines, support)
c. In-service training
d. Teachers' personal and professional effects
e. Teachers' overall perception of environmental education
f. Difficulties in the implementation of environmental education
g. What should be done in the future

Results

The teacher interviews that spanned the course of two years revealed that the environment, both people and physical surroundings, allowed for different developments to occur in the understanding and teaching of environmental education, and for growth at a personal level for the teachers.

Influences of the Physical Setting and the Community at the Farm School

The surrounding physical environment presented an initial challenge for teachers. At first, they concentrated on the school garden. They became involved in safe, daily routines. As Teacher 4 indicated, this involved "feeding the fish, placing seeds in the bird feeders, watering the flowers, the plants, picking and observing under guidance."

It was expected by the administration that teachers work in the garden daily. These garden activities were also what teachers at first understood to be environmental education. However, having so many facilities and diverse natural areas created an impetus for their usage. The administration of the school also implicitly expected it. As a consequence, teachers slowly expanded their teaching of environmental education beyond the school garden to involve the dairy facilities, the barn, the vineyards, and the wine-making facility. As Teacher 3 indicated:

> You can't leave all these building, machinery and infrastructure without utilizing it. For example, in some way, not that you are forced, but it is a gift that you cannot ignore. It provides you with ideas, and to become involved with something else I believe is pointless when there are other teachers that are looking for such facilities and such motivating factors to implement similar programs and activities.

The school's natural environment provided opportunities for students to observe plants and animals throughout the year and gain an understanding of their development. It also allowed the children to develop a personal relationship with the natural world and not view it as an object. Teacher 2 explained, "We don't need to go to the vineyards just once a year when we make the wine. It is nice to go during spring for example. To see what has happened, is it still there? It is experienced differently with their teacher and differently inside a car when they are just passing by."

Some children were initially hesitant to be outdoors. They were afraid of bugs and disliked the dirt, but they slowly became accustomed to the outdoors. Teachers gave the students room to observe their surroundings and eventually lead their own investigations in the natural environment. Not only were the children's imaginations stimulated by being exposed constantly to a natural environment, but so were the teachers'. Waite (2010) indicates that educators need exposure to novel environments to become more self-confident and more

effective. Teachers developed their own ideas and lesson plans from their interactions with their surroundings. "To be able to have such infrastructure around you has provided me with great joy and inspiration to discover all this," Teacher 5 emphasized.

Some of the connections that the educational farm brought forth for the teachers related food production processes with food processing. Students could view the cows at the barn being milked, and then visit the milk pasteurization and bottling facility, the cheese production, and finally the store on the grounds that sells the products—all within the same day. Teachers commented that the children's understanding of environmental education increased by providing these dimensions concerning natural systems and animals. As Teacher 2 said:

> [Students have an opportunity] not simply to see the cow, but to see it from the beginning and capture the whole picture. To see everything that is related to the cow, even the cheese that we eat comes from the cow, it was processed, etc. Something that the children also like is that when they learn the whole process, some things stay with them, some a lot…

This endeavour was a collective effort and not just that of the classroom teachers. However, problems with the coordination of people were also mentioned. At times, help was not always available and there needed to be coordination. "We need to show our need for an agriculturist or the elementary [school] will have him," Teacher 6 remarked, showing that to have help one needs to be adamant, or it may be lost to another section of the entire complex of schools.

Teachers were able to work with people who supported them in their ventures outdoors: there were the scientists at the various facilities explaining and guiding the classes through the processes, high school students that helped the young children with the gardening, and environmental educators who gave ideas for integrating environmental education. This collective effort seemed to bring about a sense of respect towards both the physical and social environments for students and teachers. Teachers reported that, "Parents inform us that their children are more socialized and develop positive attitudes in being able to receive messages in their interrelationships." Students, for example, were careful not to step on insects. They talked to nature, as Teacher 3 illustrated: "We go there with the school bus, the children say 'good morning, vineyards,' 'good morning, corn,' or when they cut the corn and the flour comes out, 'good morning, flour.'" They acquired social skills and improved relationships with peers and adults. Some teachers indicated that their own personal habits changed in order to conserve the natural environment. For example, Teacher 1 noted:

> We have done a unit on water. I know in my heart that I can't [leave]…the tap running. These are within the framework of the kindergarten, but I didn't give it much credit [before]. Now, there's a reason that I live it daily and give more emphasis to the environmental aspect in my personal life and with the children.

One of the drawbacks mentioned by Teacher 4 during the second year was that more efforts could be made for exposure to different environments, other than the school grounds. She felt that diversity of environments is important, and that being open to alternatives and not confined to a certain scope or environment is critical for a wider understanding of environmental education:

> But I think here, not that we have failed, but we have shunned other possibilities—like seeing what kind of relationships does my specific ecosystem in my garden have with another ecosystem—to discover relationships within our society and in the wider environmental realm.

The farm environment may exclude children from understanding other natural environments. Connections also need to be made from the farm school grounds to other environments.

Another issue raised was that the natural environment may distract students from learning. The grounds could be viewed as a playground, and not something to create a relationship with or to explore. Teachers needed to have a plan. "When children are in an open area, their attention is distracted easily because there are many stimuli, so the educator must be organized so there are no gaps and students are not diverted into something else," one teacher noted.

The physical and social environment at the school worked synergistically to improve the environmental education teaching, although this was not without its problems. Teachers complained when they were solely responsible for the garden and had no assistance. The vital point is that teachers were eventually able to create multiple levels of understanding, mostly due to the unique opportunities that the environment provided. Children viewed how food is processed and how habitats change throughout the season, and were able to explore on their own since the outdoors was just a door away.

Perceived Needs for the Implementation of Environmental Education by the Teachers

Teachers expressed two main needs for their implementation of the environmental education program: assistants for both outdoor and classroom activities, and further education. Their circle of assistants involved (a) food scientists who provided the teachers with valuable specialized knowledge of specific areas, such as the winery and dairy, thus making these facilities accessible, (b) grounds workers who helped with daily tasks at the school garden, (c) PhD candidates who created lab activities and lesson plans with an environmental education focus, and (d) a cook for cooking with the students.

Teachers who did not have access to a grounds worker avoided using the school garden frequently. Teacher 2 explained:

> Last year (2012) we had an assistant at the garden, all the time there. This year (2013) we don't have him there all the time, because he has other duties. So this year

> I faced difficulty because I was the coordinator of the team, so I had to get in and dig and do whatever and it was something that didn't work out…And instead of going, let's say, four times a week to the school garden, we went once or even [not at all] and we did other things that were also environmental education.

The teachers also felt challenged by designing activities on their own, either due to a lack of ideas or insufficient knowledge, and therefore relied heavily on environmental education specialists for their lesson plans during their first two years of teaching. Teacher 3 described her experience:

> They [the environmental education specialists] are always available to even provide you with ideas towards it, and that is important, because there are people who are highly specialized. Even with people who aren't directly…who don't have a pedagogical background, they have at least ideas that you can build on…in the garden specifically. So in combination with your own, you can bring about nicer and more creative activities. And in this way you could avoid some hassle, you can say.

The second need expressed by the teachers emerged from their insufficient understanding of environmental education. In the interviews teachers mentioned a "need to widen our horizons…to realize that environmental education isn't something…certainly it is part of pedagogy, it isn't the sciences, but not something complex and intricate, something that we cannot do (those of us who have educational training)." Teachers participated in seminars provided by the administration throughout the years. Some read more on their own to bridge their knowledge gap. Understanding environmental education, according to some teachers, required not only concrete knowledge, but also a kind of personal growth. So, one of the perceived needs was personal development, in order to grasp the ramifications of environmental education and apply it more holistically. Teacher 1 noted that the environment at the school seemed to "deeply change my views on education. I dare say that it has helped me to express what I think and the view I have about things." Overall, teachers identified the need for personal development and a need for continuous support to improve their teaching of environmental education.

A Matter of Time

Several changes took place over the course of the three years at the school. These changes can be categorized into four areas: (a) teacher understanding of environmental education, (b) environmental education teaching methodology, (c) teacher activity with the surrounding environment, and (d) teacher characteristics (see Table 1).

During the first year (2012), teachers realized that they had limited, if any, environmental education training and a poor understanding of the goals and approaches of environmental education. They applied traditional modules of environmental education such as recycling, the water cycle, and resource

	Initial Year (2012)	Second Year (2013) (Teachers' training on environmental education begins)	Third Year (2014-2015)
Teacher understanding of environmental education	• Limited, superficial view	• Wider understanding of what environmental education entails (social, cultural, and historical aspects) • More systemic viewpoint of environmental education	• Environmental education as an integrated aspect of the core curriculum
Environmental education teaching methodology	• Teacher-driven instruction • Rigid lesson plans	• Teacher-driven instruction • Children's initiatives on activities • Experiential learning	• Flexible core curriculum • Children have a say in the development of the curriculum • Enhanced experiential learning • Enhanced interdisciplinarity
Teacher activity with the surrounding environment	• School garden mostly	• School garden, dairy farm, vineyards, fields, trees, insects	• All the natural and human-made surroundings (every park, grove, field, hill, path, school, house, etc.)
Teacher characteristics	• Stress, unfamiliar with environmental education • Reliant on assistants for guidance	• Stress after awareness of the breadth of environmental education (need for better organization and planning arose, especially in accordance with the core curriculum) • Cooperative work between teachers and environmental education trainers	• Teachers as a community of practice • Enhanced collaboration (share knowledge, deal with problems and difficulties)

Table 1. Developments at Preschool from 2012-2015

conservation. The scope of environmental education for some was mostly related to activities in the garden. Teachers were stressed and reliant on the graduate students for ideas. From the interviews there were comments such as, "I need to say that when I started…I was somewhat scared in the beginning,"

and "I don't believe that last year [2012] we really did environmental education. I was really stuck on the part of the school garden, planting, cutting," that reflected some of the changes the teachers underwent during their teaching experiences. During the second year (2013) teachers integrated more topics into their lesson plans—topics they had never previously considered as part of environmental education, such as social and cultural aspects. They compared the availability of water in Greece to countries of Africa and used the children's toys to initiate a discussion on conservation, instead of just relying on a trip to a recycling centre or conducting a recycling project. Teacher 1 described an interaction with one of her students, who said to her, "oh, oh, Mrs.! She has to carry water because over there in Africa there isn't water and we have to be careful with water because it will be exhausted."

Teachers ventured into other parts of the surrounding physical environment, such as the vineyard and the dairy. Their teaching methodology was also transformed, being less teacher-driven and more student-driven. It was reported that "you can diverge in whatever the children want or develop, to get away from the program."

Overall, however, teachers reported feeling more stressed during their second year of teaching, when they realized the full scope of environmental education. They needed to overhaul their initial planning. Environmental education could be tied into everything they were teaching, so they started thinking about how to do it more consciously. The teachers were also transformed personally. Environmental education extended into their own homes and worldviews. Teachers remarked that, "…and this year [2013] I am more scared because I understood that environmental education involves so many things and I was trying to think how all these could be connected," and "I live it daily and give more emphasis to the environmental aspect in my personal life and with the children."

During the third year of interviews, the school presented a more integrated image. Teachers collaborated more with each other and other staff at the school. They acquired more freedom from the administration to divert from the core environmental education curriculum and pursue their class interests and ideas. This engagement of environmental education spilled over into other subject areas at the preschool; for example English as Second Language teachers are now integrating environmental issues into their curriculum. In the interviews during the third year, there was more language referring to the school as an entity, rather than referring to individual teachers, as noted in the following two excerpts from teachers:

> We have seen that the cooperation amongst the teachers, the ideas that we exchange every day when we meet in the hall, for example, and all the communication and support in each other's work, is far more crucial than formal training.

> The classroom is like a community and we teachers work more towards the sense of belonging in a team. I think that environmental education has now found a balance if you will, and stability in our school. The initial training that we received here was

> the starting point and after that, environmental education has evolved through personal studying and most importantly through the discussions amongst the teachers.

As teachers grew in confidence, they diverted from the expected areas on the school grounds to implement environmental education into every nook and cranny. As one teacher said, "we try to utilize all the surroundings of the American Farm School. I mean not just the infrastructure but every tree and bush, every field and park. The program is now more flexible."

Discussion

> I believe that children, especially at the preschool age, in such a large open natural setting need a context so that they can function and this context can be given by the educator through the development of activities within a well-organized plan… Otherwise, it is like a walk in the park.

Immersion in a natural environment may just be "a walk in the park" for children, as Teacher 4 mentioned (above), if teachers do not provide a meaningful context for it. Teachers need to guide students to observe the environment around them since "their attention is distracted easily because there are so many stimuli." For children to have active participation and derive meaning in a natural environment, a framework needs to be in place. The daily activities in the school garden not only provide an awareness of the natural environment, but also highlight the need for its continuous care. A walk to the small forest at the school is not playtime if teachers create activities such as observing the diversity of the insects.

Teachers have a key role to play in developing children's awareness and care for the natural environment. It is therefore important that teachers are empowered and supported to teach environmental education by being provided education, where lacking, as well as a conducive environment for their engagement with environmental education. Stevenson (2007) notes that school environments have not been designed for the purposes of environmental education. The teaching of environmental education usually involves complex problem-solving and critical analysis of environmental situations. This entails lengthy discourse with students and in some cases raises contradictory data, and difficult and ambiguous environmental situations. Therefore, the teaching of environmental education can cause a climate of intense controversy that not all schools are ready to handle. In particular, the school program and the organization of the school itself (e.g., class sizes, time allocation, and teacher load) are characteristics that can either advance or impede such demanding inquiries. These requirements presuppose flexibility in the school and trust and commitment among administration, teachers, parents, and students to follow through with an environmental perspective. The American Farm School preschool includes some of these characteristics. For example, a cooperative effort exists between

teachers, administration, and other staff, albeit not without its problems, such as issues of sharing resources and requests for additional help with activities.

The development of the preschool's environmental education program required time to foster the development of staff. Within the three years since the school's founding, all stakeholders involved have had to make adjustments. The teachers needed to become familiar with the grounds and the people who could help them. The school's administration needed time to assess the needs of the school. The administration saw a knowledge gap and provided professional help in environmental education for the teachers. As the teachers developed confidence in their teaching of environmental education, they diverged into non-typical subject areas and physical niches of the school. The administration reciprocated by giving them more flexibility in their lesson programming. Overall, this cooperative effort improved the environmental education at the school.

The application of environmental education resonates within a school and affects the social and cultural environment. In their study of CAIRA, a unique high school with a school-wide environmental curriculum within a farm setting, Metz, McMillan, Maxwell, and Tetrault (2010) noted that this curriculum within a place creates an "environ" that grounds the students and creates a real concern for the environment. A holistic approach that permeates all subjects and staff is crucial for an environmental education that not only informs, but initiates changes. This holistic approach was slowly acquired over the course of three years by the small group of teachers at the American Farm School preschool. The personal journey taken by teachers unified the small community. Teacher perceptions of their own daily routines changed over time and they also developed an environmental conscience that extended beyond the school grounds. The teachers adapted to their unknown environment by forming relationships with more experienced staff at other facilities, by gaining knowledge, and by learning to work as a team. This endeavor required structure and continuous effort. There was an initial curriculum set in place. There were expectations, but also support at the preschool for an environmental education program that encompassed the needs of all parties involved.

A similar cohesive unit can be found in Payne's (2005) study of Green families in Australia. Some key "parenting practices" that promoted an environmental ethos in these families, such as a commitment to environmental and social justice, a culture of mutual respect, and a normalization of daily habits concerning the environment, can also be found at the American Farm School preschool. The preschool developed daily routines involving the environment and expanded its initial, more scientific scope of environmental education to include social and cultural environments.

Having a small and flexible unit, common goals, and a commitment to follow through with an environmental education focus formed a community of practice at the preschool. Mayer-Smith, Bartosh, and Peterat's (2010) six-year

study of an intergenerational environmental education farm project found that one of the difficulties faced by the farm school they studied was the different agendas of teachers from the cooperating schools. Perhaps the small number of teachers at the preschool, and the opportunity to work with each other for three consecutive years, was the reason for the shared view of environmental education developed in the case study school. There was also a background on which to build on each year, so there was improvement and not just maintenance of the status quo. Another explanation for the forming of this collective team may be its distance from pressures of formal curriculum from the state that exist in upper grades, and a comparably flexible schedule that allowed interaction with the environment not only initiated by the teacher, but also by the students (Stevenson, 2007).

The teachers at the preschool realized that simply experiencing the natural environment is not enough to teach environmental education (Ernst & Theimer, 2011). Environmental education is not as easy as a "walk in the park." It requires education, cooperation, and teachers' personal development. Their development boosted progress school-wide, in the students, in the curriculum, and in interpersonal relations. For all those involved, the environment at the school evolved into something more than just a walk in the park.

Conclusion

This unique case, concerning the perceptions of early childhood teachers at a preschool within a farm setting, illustrates how an environmental education program, and teachers themselves, can be developed. It illustrates the importance of cooperation and education, if a school is to move from a rigid, lesson-plan based environmental education approach to a more interdisciplinary approach. It highlights how a small school united in a common goal (environmental education) within a supportive environment can overcome barriers and form a community of practice and, importantly, build teachers' sense of efficacy. It also illustrates that the natural environment, the farm, can be used in a variety of ways for teaching environmental education. Apart from other environmental education farm programs that have concentrated on nutrition, entrepreneurship, and production, it also showed how the farm environment at the preschool could be used to show processing and seasonal/developmental changes.

A shortcoming of this study is the small sample of teachers at the school and the fact that there is no comparable school in Greece to which the preschool could be juxtaposed. Are the developments in this preschool due to its unique features, or is there a social component found within Greek culture that promotes a more synergistic attitude? Aguirre-Bielshowsky, Freeman, and Vass (2012) found differences in teacher approaches to environmental education in New Zealand and Mexico that in part stemmed from cultural differences. More research could be done to see if the developments at the preschool are retained

over time, or whether the initial enthusiasm at the school will taper down after a couple of years or change if a different administration comes into place.

The findings of this paper can help in understanding teacher needs in the implementation of environmental education at schools, given that access to natural areas may not be a problem. This study adds some valuable observations on the importance of having a small, flexible team of educators and administration when it comes to environmental education. There is a dynamic equilibrium that forms within the relationships of the people involved in environmental education at a school. How can schools be organized to promote an environmental education approach to teaching? In this specific case, the administration was flexible to the needs of the teachers and students, but this is not always the case.

Acknowledgments

We would like to thank all of the teachers who participated in our research for the fruitful discussions, and our families for their continuous support and encouragement.

Notes on Contributors

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