AN URBAN ENVIRONMENTAL EDUCATION PROGRAM THROUGH ACTION RESEARCH IN AN URBAN SCHOOL IN GREECE (HERAKLION): “MY CITY: A NEIGHBOURHOOD IN EUROPE”

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Abstract:
This paper presents an Urban Environmental Education program through Place-Based Education approach which was implemented at the school of European Education of Heraklion during the 2015-16 school year, as part of an Action Research. The aim of this research was to investigate the improvement in the relationship between the urban primary school where the teachers worked and the local community. The school has 2 language sections, Greek and English, and the pupils come from various European

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countries. The participants were four (4) teachers, twenty-six (26) pupils from both sections and two (2) professors from the University of Crete as support persons, our "critical friends". The teachers realized that all Environmental projects at the school were concerned with global environmental issues but that there was no connection with the environment surrounding the school. What is more, there had never been a common project with participants, teachers and pupils, from the two different language sections. For these reasons, the Place-Based Education approach was employed and since the place was the city of Heraklion, the implementation of Urban Environmental Education seemed most appropriate. Almost all the activities were cooperative, experiential, focused on the school and the local environment and the participants systematically reflected on them.

**Keywords:** urban environmental education, place-based education, action research

**Periβληψη:**
Στην εργασία αυτή παρουσιάζεται ένα πρόγραμμα Περιβαλλοντικής Εκπαίδευσης βασισμένο στον τόπο, το οποίο υλοποιήθηκε στο πλαίσιο μιας Έρευνας -Δράσης στο Σχολείο Ευρωπαϊκής Παιδείας Ηρακλείου το σχολικό έτος 2015-16. Η Έρευνα-Δράση είχε ως αφετηρία την κοινή διαπίστωση των εκπαιδευτικών που συμμετείχαν ότι σχεδόν όλα τα προγράμματα που είχαν υλοποιηθεί ως τότε στο σχολείο είχαν σχέση με παγκόσμια περιβαλλοντικά προβλήματα, χωρίς αναφορές στον τόπο που ζουν οι μαθητές. Επίσης δεν είχε υλοποιηθεί ποτέ πρόγραμμα με κοινή συμμετοχή των εκπαιδευτικών και των μαθητών των δύο διαφορετικών γλωσσικών τμημάτων του σχολείου, του Ελληνόφωνου και Αγγλόφωνου. Ένας από τους στόχους της Έρευνας-Δράσης ήταν η ενδυνάμωση των σχέσεων μεταξύ των εκπαιδευτικών καθώς και η επαγγελματική τους ανάπτυξη. Επιλέχθηκε να εφαρμοστεί η σχετικά νέα παιδαγωγική προσέγγιση Place-Based Education (P.B.E.) και συγκεκριμένα υιοθετήθηκε μια διακορτή επιστημονική προσέγγιση: η Urban Environmental Education. Στο πρόγραμμα συμμετείχαν 4 εκπαιδευτικοί, 26 μαθητές από την Ε’ τάξη του Ελληνόφωνου και την Δ’ / Ε’ τάξη του Αγγλόφωνου Τμήματος, καθώς και δύο καθηγήτριες από το Π.Τ.Δ.Ε. και το τμήμα Φ.Κ.Σ. του Πανεπιστημίου Κρήτης ως κριτικοί φίλοι. Οι δράσεις που υλοποιήθηκαν ήταν βιωματικές και ομαδοσυνεργατικές, εστιασμένες στο σχολικό και στο ευρύτερο τοπικό περιβάλλον. Οι εκπαιδευτικοί, μέσα από μια διαδικασία κριτικού αναστοχασμού, δημιούργησαν πιο ουσιαστικές σχέσεις επικοινωνίας, συνεργασίας και εμπλουτισμού των πρακτικών τους, τις εμπλούτισαν, αλλάζοντας την επαγγελματική τους αυτοεικόνα και βελτίωσαν την εκπαιδευτική τους πραγματικότητα. 

Λέξεις κλειδιά: περιβαλλοντική εκπαίδευση, αστικό τοπίο, έρευνα - δράση
1. Introduction

Place-Based Education (PBE) is a relatively new term in the education literature. The first report in Greek bibliography was in 1992 by Papadimitriou, but as a pedagogical approach it has been promoted by J. Dewey since 1891.

Sabel (2004) defined this type of education as the process of using the local community and environment as a starting point to teach concepts in language, mathematics, social studies, science and other subjects across the curriculum. The neighbourhood, the city, even the school yard offers authentic opportunities for studying, learning, contemplating and it can help all the participants to develop strong ties between them and the place and take action to sustain it.

The basic characteristics of PBE according to Woodhouse & Knapp (2000) are: a) that teaching and learning should emerge from the particular attributes of a place: geography, ecology, sociology, the local economy, the local systems b) It is inherently disciplinary, c) it includes a participatory action, which is considered necessary when environmental issues are under study, d) it is experiential, it is reflective of an educational philosophy that is broader than “learn to earn” and e) it connects place with self and community.

2. Connecting Environmental Education and Action Research

Action Research in Environmental Education began in the early 90’s (Bagakis, 1993) and is expected to fulfill 3 functions: (Altrichter, 1991, Altrichter & al, 2011)

- Assistance in coping with practical situations.
- Assistance in developing differentiation and systematizing professional competences.
- A contribution to the development of a professional and public discussion among people working and concerned with education in order to improve and validate educational experience and the knowledge underlying it.

Each one of the above can be used to support the role of the Environmental Education to deconstruct some of the traditional and deeply rooted dogmas related with Education and to strengthen the educators in order to raise their own voices and contribute to the dialogue about the advances in the educational system (Posch, 1993). Wals (1994) supports that Action Research begins when the teachers who are participating decide to deal with one or more environmental issues. Through enquiry and discussion among them, the participants isolate a specific problem to study and resolve.

As the participants begin to produce ideas, they enter the 1st Cycle of a Spiral process according to Lewin’s model. (Lewin, 1946) Next, they develop an action plan in order to solve the problem and they implement it and then assess its effectiveness. The assessment process usually leads to the development of another plan, which leads to the 2nd Cycle of the Spiral and so on until they finally reach a solution to that problem. During
this procedure the participants adopt a critical attitude towards learning, they integrate the new information in order to change and adapt their plan to the new situation.

The “Community Problem-Solving” approach is the basis for Action Research in Environmental Education. Thus, Lewin’s methodology can be adjusted to Schools so that the pupils and all the other members of the community that are affected by an environmental problem can work together and act in order to find a solution.

Important factors in the process of “community problem-solving” are the recognition of the problematic situation, the collection, organization and analysis of data, recognizing different perspectives on the situation, testing and selecting different types of actions, developing and implementing a specific plan. The environment of a city can become a favorable breeding ground for implementing such a program as the people who live in cities face some of the most pressing problems of today’s society: delinquency, poverty, crime, pollution, lack of hygiene etc.

In Greece, in the early 90’s, the magazine “Educational Community” opened a broad dialogue starting from the introductory articles of Bagakis (1993) and begun a meaningful and coordinated effort of gathering full and accurate information concerning Action Research and all the benefits which it could bring to Education. Bagakis himself emphasized the possibility to build on this type of research in specific educational areas like Environmental Education. The first Action Research in Environmental Education in Greece was implemented by Kamarinou (1985) who, at the time, faced additional difficulties, due to total absence of related research and pedagogical interventions in Greece.

3. Types and Characteristics of Action Research

Carr and Cemmis (1986) presented the three forms that Action Research can take. Based on the theory of J. Habernas about the three main cognitive interests, they distinguish three types of Action Research: Technical, Practical and Emancipating Action Research. In this program, we implemented Emancipating Action Research which aims for social change. This type of action centers on social practices which shape classroom practice and attempts to come into contact with the political forces to realize democratic educational reform. The scientific basis of this type of Action Research is the critical paradigm, since it aims to change the structure of education, to change the role of the teacher and his professional development (Katsarou & Tsafos, 2003). The main characteristics of Emancipating Action Research are:

- The participatory and collaborative character,
- The interweaving of research and action, theory and practice,
- The reflective quality,
- The connection with professional development,
- The qualitative dimension (Katsarou & Tsafos, 2003).

In this paper we will present the results of our research that have to do with the professional development of the teachers. According to Katsarou and Tsafos (2003), the
educators – researchers develop professionally while trying to improve their practice. And what mainly strengthen their professionalism are the responsibilities they undertake as they become more and more autonomous and they broaden their horizons and their role. Their professional self-image changes, since they realize that there are no general rules in their practical problems that can be found in theories. They are required to come up with their own ideas which they can test in their classrooms and improve their teaching practice.

4. The professional development of the educators through Action Research and the improvement in their relationships

Action Research contributes significantly to the professional development of the educators as they challenge and extend their existing theoretical knowledge and their ability to act and contemplate. But it is not just a practical model. It actually contributes to the advancement of educational theory. The teachers-researchers become more responsible as they observe closely and evaluate their ideas, their practise and improve their work (Somekh, 2006).

Katsarou and Tsafos (2003) also support that the teachers-researchers are looking for the factors that affect their teaching practice and are responsible for the problematic situations which they must deal with in their classrooms. The active role that they take makes them more autonomous, they broaden their horizons and their responsibilities, their actions and their professional assessments.

Through the collectiveness of the Action Research, the teachers-researchers realize all the many ways they can affect their students and gradually they emancipate. The same research emphasizes that the modern movement of educational research is a critical action which, besides the development of autonomy and the understanding of knowledge as a source of power in society, it also creates a connection between knowledge, research and practice. The teacher-researcher does not only seek his personal or professional development, but he also seeks social reformation and justice. He has an obligation to raise his voice against politics who consider him/her inefficient pedagogically or morally. Additionally, the teachers-researchers community is called upon to join in on the creation of a world where every child will have the right to a dignified life.

5. Methodology

Seventeen (17) pupils from the Greek section (Year 5) and nine (9) pupils from the English section (Years 4/5), participated in this program. Four (4) teachers also took part as members of the Pedagogical Team and two (2) professors from the University of Crete as “critical friends”. During the school year 2014-15, a first attempt was made to record the problematic situation which finally led to the Action Research:

- Lack of interaction among the pupils of the two language sections,
Total lack of PBE programs,
The environmental projects were irrelevant to the community surrounding the school.

The Action Research Strategy was chosen and specifically the St. Kemmis model (1983) which includes a series of spiral circles. Every circle actually represents an effort to improve the previous one through critical reflection (Katsarou & Tsafos, 2003). The 1st Cycle concerned the school yard and the 2nd Cycle included the old town of Heraklion. The activities which we were engaged in were: a street art project, creative writing workshop, natural farming and natural building workshops, creation of a vegetable garden, collective cooking, upgrading of a park and a beach. Qualitative research tools were used before, during and after the implementation of the Action Research: texts and personal diaries written by the pupils, observation diaries that the teachers kept, reflecting dialogues among the teachers, group discussions among the pupils in the classroom, critical autobiographies of the teachers and photographs that were taken during the activities. The data collected was analyzed using Thematic Analysis, a method similar to Context Analysis (Lieblich et al., 1998, Smith, 2000), according to the five steps of Thematic Analysis (Issari & Pourkos, 2015, Willing, 2015, Tsiolis, 2015).

We attempted to give meaning to the data in order to answer the central research questions about the participation of teachers in a Place-Based Education program:
- It can improve their relationships and thus the collaboration among them
- It can change their attitudes towards their pedagogical role for the awakening of the environmental awareness of their pupils
- It can redesign their pedagogical theory about new collaborative pupil-centered teaching approaches,
- It can contribute to their professional development and affect the whole school community.

6. Results and Discussion

In this paper we will present the results of the Thematic Analysis from the reflecting dialogues of the teachers (Pedagogical Team) and their critical autobiographies.

When the 1st Cycle of the Action Research was completed, the findings of the Thematical Analysis of the reflecting dialogues answered our questions.

As far as the first question is concerned - can the participation of the teachers in a Place-based Education program improve their relationships and thus the collaboration among them - the analysis proved that their participation in the program contributed to building a very satisfactory frame of meaningful communication and collaboration among the teachers. It also contributed to the development of a feeling of freedom of speech and a creative exchange of ideas among them.
"...I am a closed person but maybe this year, I don’t know, it seems like I can ask more questions, I can speak more...and o.k. things are easier. I think working with other people seems easier...” E2

"...I like that there are opportunities to interact with other teachers, talk about we feel about some things, how we can do better...”E3

"Definitely! From the beginning of the school year, step by step, the communication, the collaboration among us, becomes more and more meaningful.”E3

The question: can the participation of teachers in an Environmental Place-based Educational program change their attitudes towards this particular teaching approach, raised two extra topics for discussion: the pedagogical role of the teachers in order to increase the environmental awareness of their pupils and the transformation of the personal pedagogical theory of the teachers e.g. adopting more experiential and cooperative teaching methods.

The analysis of the reflective dialogues of the teachers, after completing the 1st Cycle of the Action Research, proved that their participation in a Place-based Environmental program can increase the feeling of responsibility they have as educators and it can also help the relationships among them.

According to McLeod & Kilpatrick (2001), the teachers who implement Urban Environmental Education programs are required to have a positive attitude towards the future of the urban environment, to commit to protecting the ecosystem and the society and have a passion for the particular educational area.

The Thematic Analysis also brought up the need for enriching the teaching process with more experiential activities. The need to move from Theory to Practice, so that both teachers and pupils are actively involved in procedures, in the opening of the school to the community.

"...if I participate in another program, smaller maybe, with only one more teacher...I think that what we are doing now has changed me, has changed the way I think and maybe I will find the courage to try something like this...which I would never have done in the past” E2

"The most important thing: Open schools for open societies that is what we are talking about.” E3

"... I feel that most importantly (...) we become more responsible...because we know now that we can intervene and we can make an impact to our environment (...) I felt it too...there are ways to change things (...) you see that it depends on you, you can inspire your pupils, the responsibility is even greater because you can see you have an important leading role.” E1
"Personally, I have seen how important it is for the pupils to participate in these activities. This is a very powerful tool we have and I would like to include more experiential activities in my teaching practice (...). My training was very theoretical. That's how I was taught to teach but now I see that the outdoor activities, the engagement in practical situations are more important than theory. We must get out more..." E3

After the Thematic Analysis of the 1st Cycle an extra category emerged. The teachers mentioned several times the development of their professional self-esteem, a feeling of fulfillment while acquiring professional skills.

"... It is very satisfactory, professionally speaking. Step by step we evolve professionally." E2

"I feel that this program gives me practical competences that will help me in the future. This was one of the reasons I was involved in this program at the first place. I don’t know if it will help me with my career, but this experience has already helped me in many ways. I already feel that. And by the time we are finished I believe that it will have helped me even more" E1

"Yes...I feel that. I have felt it, I feel it...my confidence, my self-esteem as a professional is higher” E1

One more category which emerged from the Thematic Analysis of the 1st Cycle was the positive impact of the program on the school community, to the rest of the teachers and pupils.

"The Environmental project (…) motivated the whole school (…) the other teachers 100%! I believe that now we will have more programs like this... “E3

"... They ask, they ask, they keep asking...(…) Even technical details...”I would like to do that, too. How did you do it?” E3

"...There is a positive feedback from the other teachers.” E1

The analysis of the Critical Autobiographies of the teachers resulted in the following findings concerning the improvement of the relationships among the teachers and their professional development.

1) All the members of the Pedagogical Team had very strong Academic backgrounds with Post Graduate studies and at least 10 years of teaching experience in Primary Education. They also had experience in Environmental Education.
2) Their motive for participating in this particular Environmental Education Program was their need to be involved in new challenging situations, to upgrade their skills, to be trained in new techniques.

3) None of the teachers mentioned having any significant difficulties. On the contrary, they believed that the program included many interesting challenges, like finding ways to facilitate the communication and collaboration between the two language sections.

4) The opinions of the teachers as far as the Action Research Strategy is concerned, agree exactly. They all believe that it was an excellent opportunity for them to learn about the Action Research and finally incorporate it into their teaching practice.

5) The good collaboration, the common experiences and interests, the creative interaction among them, gave the participants the chance to improve even more the existing good relationships.

6) The most important result of this program, the one that all the teachers emphasized, was that the coping with practical situations, the involvement in decision-making, the increased autonomy, the freedom to act, helped the pupils to improve the relationships among them, to participate actively and creatively on their own without any pressure, to evolve.

These results are no different from the findings of other similar research. The improvement of communication and relationships among the teachers is also mentioned in the research of Russ, Peters, Krusny & Stedman (2015), which is considered to be one of the most important studies in the field. One of their important findings was that the Urban Environmental Education Programs strongly contribute to the social interaction among the pupils, the teachers and the other members of the local community. Also, many researchers support the necessity of a network for teachers and other professionals which will help them create community-school partnerships. They find it necessary for the teachers to be supported, to be assisted by mentors, members of the community surrounding the school and external facilitators (Frank & Zamm, 1994).

Our Thematic Analysis findings also agree with the basic results in a study of PBE programs evaluation (PEEC), in which Powers (2004) participated. Its aim was to point out the advantages of this philosophy and two of the results completely agree with the findings of this Thematic Analysis:

a) it activates and strengthens the educators. Their participation in PBE programs enhances their trust in their leading capabilities and gives them opportunities to acquire a feeling of satisfaction as professionals. It also enhances their enthusiasm, their desire for further training, their willingness to work with other professionals. Collaboration is the key word to the school culture.

b) The ideas of PBE are becoming an integral part of the school culture and provide opportunities for the schools to transform their local environment and redesign their classrooms.
From the PEEC study some difficulties also emerged and two of them agree with our findings: a) the pressure of the National Curriculum and b) the long tedious bureaucratic procedures.

“The schedule is tight and we are juggling too many responsibilities...yet we found time to talk with each other, we pulled off a feat” E3

Concerning the difficulties which the educators have because of the pressure they feel to cover the curricula Bouboura (2010) claims that, although participation in Action Research is a novelty for the Greek schools, it has certain restrictions and difficulties since the teachers are required to follow a very specific curriculum. What makes it even more difficult is the fact that the Greek educators traditionally have been working behind closed doors. They do not have the experience, the know-how or the will to adopt open and participatory approaches. Bouboura also emphasizes that the educators are not familiar with self-evaluation procedures which require self-inquiry and systematic reflection on their activities, or have experience working with other professionals. Additional challenges which teachers-researchers are facing are managing their emotional reserves and the insecurity they may feel about their ability to keep up with this double role as researchers and teachers.

References


References in Greek


