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Preschool Education Professionals as Mediators of Environmental Health Education

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Abstract

Environmental health can be integrated in the education system through Environmental Education (EE). The present research aims to state the perceptions of Preschool Education (PE) teachers regarding EE. More specifically, we aim to find out the predisposition of these professionals when including EE in their daily practice. Interviewed subjects showed good predisposition to include EE topics in their professional practice since 33% of them thought they would slightly modify their curricula to include EA topics after their participation in an EE awareness raising course,while 66% of them thought they would considerably modify it.

Keywords: Preschool Education; Environmental Education; Environmental Health; Teachers; Environmental Perceptions.

1. Introduction

According to the World Health Organization, environmental health is a discipline which comprises those aspects of human health, including quality of life and social welfare, which are determined by physical environment factors as well as chemical, biological, social and psycho-social factors. Hence the need for educating citizens from an early age in pro-environmental values which stand for respect and conservation of their surrounding environment. This allows for prevention of both short and long term problems of current and future

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generations. Environmental Education (EE) is an optimal way to integrate environmental health in the education system.

We are facing and environmental crisis which lays out the necessity of including new proposals from early stages of education which help the students to create positive attitudes to the environment. There comes into play EE as an instrument to integrate novel contents which are demanded by the new society. There exists a wide-ranging discussion in our society on how to integrate new and not merely academic contents in the curriculum (Gutiérrez, 2011). In short, the main goal is to complete the training process including abstract concepts related to ethics, social skills, values, etc. EE is taking off and is currently being incorporated to the education system through experiences, which are conveyed by aware education professionals to the students by means of activities and programs oriented to the respect and care of the environment. EE is a process which takes place in parallel to the permanent training of every citizen. Therefore, Preschool Education (PE) should be considered as a key development stage to approach the students to a global conception of the environment as a system of multiple relations. This will permit the clarification of values and the development of attitudes which allow them adopt a critical and participative position regarding the issues related to conservation and exploitation of natural resources (Cano, 1992). EE enriches and provides new meanings to the education of young students. Moreover, it helps them on how to learn to feel and interpret the environment in which they are immersed in order to be able to act in it, so when they grow and move forward in the education system they can acquire a more globalized vision of the world they live in.

One of the main goals of any education system is to prepare new generations to face systems of norms and values which are considered essential in each moment by the society, and which are worth to be transmitted to the youngest citizens. The Spanish Organic Education Law from the 4th of May 2006 (LOE, 2006), states that PE has as purpose to contribute to the physical, affective, social and intellectual development of children. The development of their affective abilities through the observation and exploration of the family and the natural and social environments is also considered an objective of this stage. Moreover, it stands for the progressive acquisition of elementary coexistence and social relations guidelines as well as for the practice of pacific conflict resolution.

This work is in the context of a training course for PE professionals from municipal schools in Granada which aimed to raise the awareness of the participants in EE and pro-environmental issues. In addition, another objective was to provide them with basic knowledge and ideas which can be applied in their daily practice with their students. At the beginning of the course we enquired the degree of familiarity of the participants with EE and their predisposition to include it in their daily practice. Along this text, we show the perceptions of PE professionals with respect to EE as well as their willingness to include it in their curriculum.

2. Research Procedure

Our research is based on a descriptive study since it is a preliminary approach to the reality which may open doors to future research about the professional needs of PE. We chose an interview study for this approach. This type of research is widely used within the education field because it is very useful to describe and predict educational phenomena and it is very efficient to obtain a first approximation to reality (Bisquerra, 2009). In our case, the chosen population is composed of the participants of the EE training symposium, who are all PE teachers. The chosen sample is composed of 15 teachers from different municipal schools in Granada and its province. The components of this sample have an average professional experience of 13.4±11.2 years. 93.3% of them are women and 6.66% are men. The employed sampling is intentionally non-probabilistic since we chose the individuals we estimated representative of the whole population.

Regarding the information gathering tool, we opted to elaborate a survey composed of a set of questions which may provide us with information about their professional experience and daily practice (questions #B1-#B9). All questions were of the triple-answer kind. In order to extract more information about their perception of the importance of EE in early stages, we also elaborated a value scale (questions #A1-#A15). The value scale depicted 15 statements related to EE and PE and the participants had to choose between 1 (strongly disagree) and 5 (strongly agree). The questions in both the survey and the scale value are listed in the next page.

Question #B1: Do you have any previous professional experience in EE? Have you carried out any recent training activity related to EE?
Question #B2: Is any of the activities that you develop in your daily practice related to environmental issues?
Question #B3: Do you think that these activities have supposed any change in the students' attitude towards the environment?
Question #B4: Do you include the rest of the members of the education community (family, other teachers, non-teaching staff, etc.) in the EE activities that you carry out?
Question #B5: Would you agree that your center carried out any kind of program which promotes EE and sustainable development?
Question #B6: Do you think that any of your colleagues would be willing to collaborate if such a program took place?
Question #B7: Are you familiar with the concept of Environmental Audits?
Question #B8: Do you think it would be necessary to carry out any kind of Environmental Audit in your school?
Question #B9: Do you think that this course will modify in some degree your daily practice?

*Question #A1:*In PE it is very difficult to work with topics related to the environment.
*Question #A2:*From 0 to 3 years old it makes no sense to work with EE issues.
*Question #A3:*The best way to convey EE topics in PE is to get in direct contact with the nature.
*Question #A4:*Environmental problems are abstract issues of no interest.
*Question #A5:*Working children's attitudes has sense within the 4-6 years old range.
*Question #A6:*Children come to school with preconceived ideas about environmental topics.
*Question #A7:*Television has large influence in the training of children's environmental awareness.
*Question #A8:*EE can positively influence in the training of respectful and environmentally committed citizens.
*Question #A9:*If children's families are not fully aware of the environment, schools can do little to promote pro-environmental values.
*Question #A10:*School excursions are the best way to address EE topics.
*Question #A11:*The school board is not interested at all in developing EE activities.
*Question #A12:*My colleagues at the school should be more involved with EE topics.
*Question #A13:*I usually recycle all the material I can in the class.
*Question #A14:*The teacher who organizes EE activities is usually very aware of environment in his private life.
Question #A15: If the school is not collaborative, it is impossible to promote environmental values.

3. Results

Results from survey (questions #B1-#B9) have been quantified using a 1 to 3 scale and are shown in conjunction with answers to the statements (questions #A1-#A15) in tables 1 and 2 and figures 1, 2 and 3. Tables depict the most significant descriptive statistics.

Table 1.Statistics of answers to questions #A1 to #15.

	N	Range	Minimum	Maximum	Mean	St. Dev.	Variance
Question #A1	9	4	1	5	2.67	1.65	2.75
Question #A2	9	4	1	5	2.11	1.53	2.36
Question #A3	9	3	2	5	3.78	1.09	1.19
Question #A4	9	0	1	1	1.00	0.00	0.00
Question#A5	9	3	2	5	3.56	0.88	0.77
Question#A6	9	4	1	5	2.33	1.22	1.50
Question#A7	9	2	3	5	3.89	0.78	0.61
Question#A8	9	0	5	5	5.00	0.00	0.00
Question#A9	9	4	1	5	3.00	1.32	1.75
Question#A10	9	3	2	5	3.33	0.86	0.75
Question#A11	9	4	1	5	2.78	1.64	2.69
Question#A12	9	4	1	5	3.00	1.11	1.25
Question#A13	9	2	3	5	4.33	1.00	1.00
Question#A14	9	4	1	5	4.00	1.32	1.75
Question#A15	9	3	1	4	2.44	1.23	1.52

Table 2. Statistics of answersto questions #B1 to #B9.

	Possible Answers	N	Range	Min	Max	Mean	St. Dev.	Variance
Question #B1	1 = None, 2= Some, 3= Quite	15	2	1	3	1.87	0.64	0.41
Question #B2	1 = None, 2= Some, 3= Quite	15	2	1	3	2.20	0.56	0.31
Question #B3	1 = None, 2= Some, 3= Quite	15	1	2	3	2.40	0.50	0.25
Question #B4	1 = None, 2= Some, 3= Quite	15	1	2	3	2.40	0.50	0.25
Question #B5	1= Yes, 2= No, 3= DN	15	0	1	1	1.00	0.00	0.00
Question #B6	1= Yes, 2= No, 3= DN	15	0	1	1	1.00	0.00	0.00
Question #B7	1= Not at all, 2= A little, 3= Yes	15	1	1	2	1.53	0.51	0.26
Question #B8	1= Not at all, 2= A little, 3= Yes	15	1	2	3	2.60	0.50	0.25
Question #B9	1= Not at all, 2= A little, 3= Yes	15	1	2	3	2.67	0.48	0.23

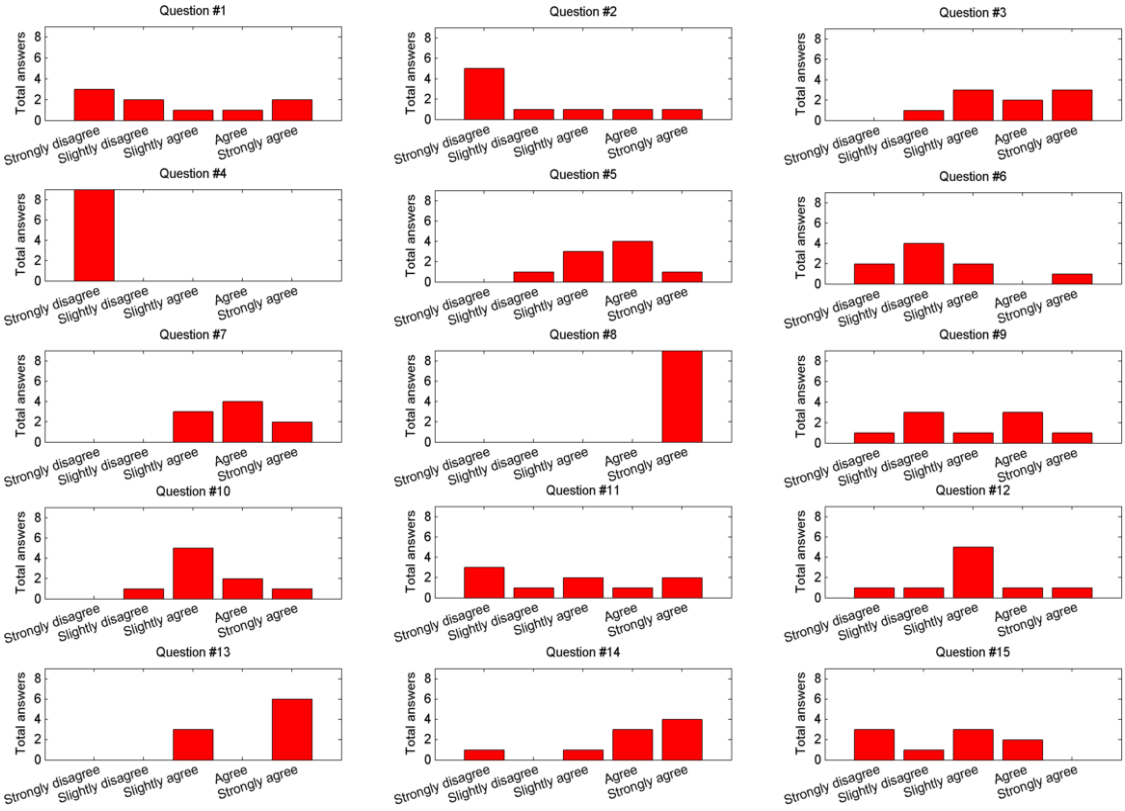

Fig. 1.Bar diagrams of answers to questions #A1-#A15.

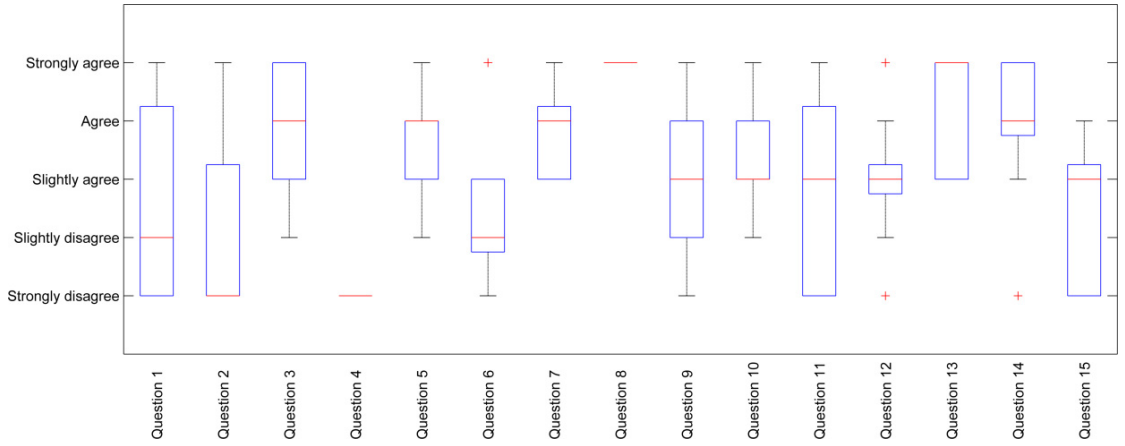

Fig. 2.Boxplot of answers to questions #A1-#A15.

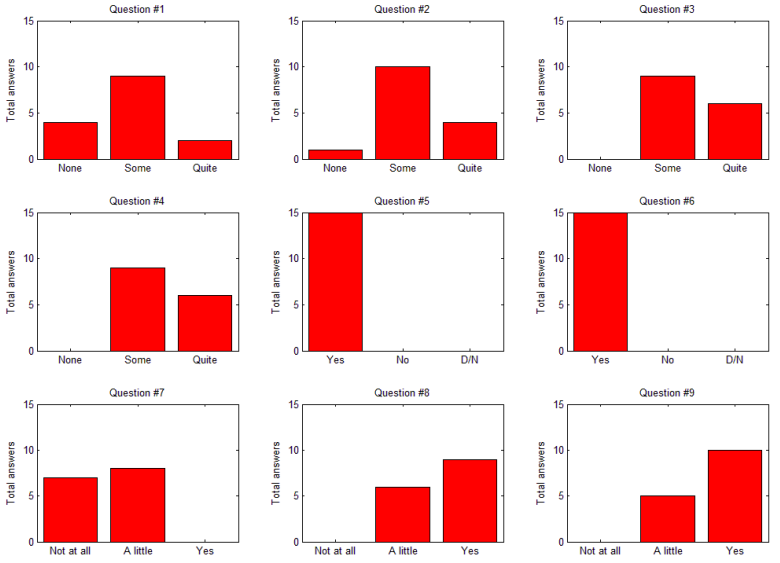

Fig. 3.Bar diagrams of answers to questions #B1-#B9.

4. Discussion of Results

4.1. Questions #A1 to #A15.

As we can observe in the boxplot depicted in figure 2, participants have a marked disparity of opinions in approximately half of the questions. We proceed now to analyze in more detail the gathered answers.

When assessing the difficulty of the inclusion of EE in PE there is not a consensus in the answers since many consider this task to be very complicated while others consider it easy. However, we can observe, that answers are more homogeneous when recognizing the high importance of including EE topics in early education stages. Similarly, interviewees agree with the fact that direct contact with nature by means of excursions supposes the best way to address these topics with students from 0 to 3 years old. Most of them agree, in a different degree, that 4 to 6 years old is the ideal age range to delve in pro-environmental attitudes.

Asked about the existence of preconceived EEideas among students, most of them consider that those perceptions do not exist yet at that stage. However, they do acknowledge the high influence of television atmodeling the environmental awareness of young children. Moreover, they all agree on the positiveinfluencethatEE exercises in the training of future respectful citizens. Family environment is another important influence factor in the environmental behavior of students. Answers show an absolute disparity when assessing the possibilities of action at the school in the event of families not being aware of environment. The same heterogeneity is observed when participants are asked about the interest of the school board to develop EE programs. This reflects the lack of a common policyof the government in the inclusion of EE programs in the education, as the EE program is currently optional and lacking of funding from the institutions. Most participants also consider that their colleagues should be more involved with EE activities. This concurs with the results shown in (Burgos et al. 2012; Burgos, O. 2011), in which it is shown that the generalized lack of interest among the teachers about the EE program is mainly caused by the non-existence of official direct incentives to the teachers coordinating them. This, in turn, supposes the main obstacle to the proper development and normalization of the program.

Regarding the recycling habits at the classrooms, which are tightly related to the environmental coherence, which is in turn one of the main bases of EE, the majority say that they are quite high. Specifically asked about the existence of the environmental coherence in the private life of the teachers developing EE programs, most of them

agree on thefact that those teachers who are highly involved in EE programs are also individuals who are fully aware of the environment in their daily lives. This also agrees with the studies of (Burgos et al. 2012) in which it is shown that in those centers in which the EE program is successfully developed, the person who is in charge is usually involved in pro-environmental organizations of some kind. In general, in spite of having disparate opinions on how to carry out and develop the programs, all participants consider of great importance to address topics related to environmental issues in the education field.

4.2. Questions #B1 to #B9.

Regarding the previous experience of the participants in EE we can see that the average is slightly lower than 2 (1.87), which indicates that most of them have only had a very slight contact with EE in their daily practice. More specifically, 40% of them have no experience at all, 46.6% do have some experience, and only 13.3% of them are highly experienced. Therefore, most participants were laymen in EE topics. Also, there is no correlation between the experience in EE and the work life (in worked years) as it is shown in figure 4.

Regarding the inclusion of EE topics in the activities carried out at classrooms, there is a slight increase in the average (2.2) which reflects that, in spite of the acknowledged low experience in EE, it has been included in some occasions in the curriculum. Participants do also consider that when carried out, EE activities had a positive reflection in the change of attitude of the students towards the environment.

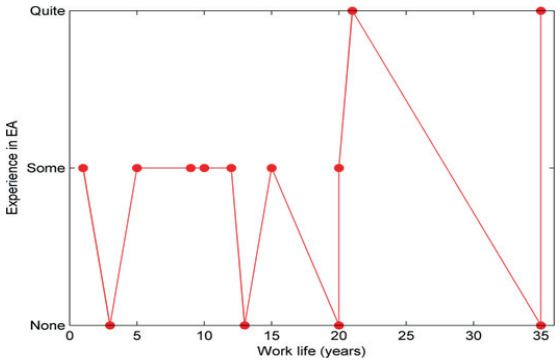

Figure 4. Work life (in years) vs. experience in EE.

With respect to the inclusion of other members of the education community, most interviewees state that they have occasionally (60%) or assiduously (40%) incorporated different members of the community in the planned activities.

All participants show their agreement on the inclusion of a program which foments EE in their respective schools and their certainty that other colleagues would be willing to be involved in it. These aspects denote the acknowledgement of the interviewees of the importance of the inclusion of EE in the curriculum. Regarding Environmental Audits, which are an important part of the development of EE programs, most participants knew nothing about them (46.66%) and 56.33% partially knew the concept. Therefore, none of them knew neither the nature of the process norall its implications. In spite of this they think that it would be very important to carry out an audit process in their schools to identify the weak points in the curriculum that could be improved by an EE program. Finally, all the interviewed participants show high expectations about the degree of influence that the symposium will have in their daily practice. 66.6% of them think they will considerably modify it while 33.3% will introduce slight changes.

5. Conclusions

EE is valued by PE teaches as a contemporary need which needs to be addressed by the curriculum since the early stages of education. The training and professional development expectative of PE teachers is high and it states some general knowledge of the different modalities of curricular integration which address EE from a global perspective affecting the curriculum, the management of the school as an educational organization aware of sustainability and the implication of the members of the community in pro-environmental actions. Development of processes of Environmental Audits in PE centers constitutes an evident opportunity of future work.

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