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Assessment of Teachers' Attitude Toward Environmental Education and its Relevance to their Readiness to Educating Students (Case Study: Teachers of Primary School in Tehran City)

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ارزیابی نگرش معلمان نسبت به آموزش محیط‌زیست و ارتباط آن با آمادگی آنان برای آموزش به دانش‌آموزان (مطالعه موردی: معلمان دوره ابتدایی شهر تهران)

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Abstract:

The purpose of this study was to investigate the relationship between "Tehran Teachers' Attitude toward Environmental Education" and their "Readiness for Environmental Education to Students." This descriptive-sectional study was implemented on 127 primary school teachers in Tehran who were selected by stratified sampling and appropriate allocation and randomly selected in each class. Thus, among the primary schools of education, ten schools were selected and in each school, the samples randomly assigned among teachers of the first, second, third, fourth, fifth and sixth grades. To determine the attitude and readiness level, the quantitative score of the questions was used and the score was categorized into three groups of good, moderate and weak based on the 100% possible score. Pearson correlation coefficient was used to determine the correlation of the parameters. The results show that 19.68% of teachers have a good attitude level and other teachers have a moderate to low level of attitude and 13.31% of good preparation and other teachers have a moderate to low level of environmental education. Also, the correlation coefficient between the"attitude" and"preparedness" of the teachers for environmental education is 0.738, although the correlation is not complete, in this case, the coefficient of determination is 0.545, which indicates a reasonably good correlation. The main reasons for this level of attitude and readiness and the relation between these two parameters are environmental media disputes and social networks in recent years, which required primary education.

Keywords: Environmental Education, Attitude, Learning, Assessment, Teacher's Readiness.

چکیده:

هدف از این پژوهش بررسی ارتباط نگرش معلمان دوره ابتدایی شهر تهران نسبت به آموزش محیط‌زیست با آمادگی آنان برای آموزش محیط‌زیست به دانش‌آموزان می‌باشد. این مطالعه که مطالعه‌ای توصیفی است، بر روی ۱۲۷ نفر از معلمان دوره ابتدایی، شهر تهران که با نمونه‌گیری به روش طبقه‌ای و تخصیص متناسب و به‌صورت تصادفی در داخل هر طبقه انتخاب شدند، انجام شد. بدین‌صورت که از بین مدارس دوره ابتدایی آموزش‌وپرورش تعداد ۱۰ مدرسه و در هر مدرسه نمونه‌ها به‌صورت تصادفی ساده در بین معلمان کلاس‌های اول، دوم، سوم، چهارم، پنجم و ششم انتخاب گردید. برای تعیین وضعیت نگرش و آمادگی، از نمره کمی حاصله از سؤالات استفاده گردید و امتیاز کسب‌شده بر مبنای ۱۰۰٪ امتیاز قابل کسب، در سه گروه خوب، متوسط و ضعیف طبقه‌بندی شد و برای تعیین ارتباط پارامترها از ضریب همبستگی اسپیرمن استفاده گردید. نتایج نشان می‌دهد که ۱۹/۶۸ درصد معلمان سطح نگرش خوب و سایر معلمان سطح نگرش متوسط به پایین و ۱۳/۳۹ درصد سطح آمادگی خوب و سایر معلمان سطح آمادگی متوسط به پایین برای آموزش محیط‌زیست دارند. همچنین ضریب همبستگی بین «نگرش» و «آمادگی» معلمان مذکور نسبت به آموزش محیط‌زیست، ۰/۷۶۴ می‌باشد، هرچند همبستگی کامل نیست، اما در این حالت ضریب تعیین ۰.۵۸۴ می‌باشد که نشان‌دهنده همبستگی نسبتاً مناسبی می‌باشد. از دلایل اصلی این سطح از نگرش و آمادگی و ارتباط این دو پارامتر، می‌توان به مناقشه‌های محیط‌زیستی در سطح رسانه‌ها و شبکه‌های اجتماعی در چند سال اخیر اشاره نمود که لزوم آموزش سریع آن را ضروری نموده است.

واژه‌های کلیدی: آموزش محیط‌زیست، نگرش، یادگیری، ارزیابی، آمادگی معلم.

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1. INTRODUCTION

Since the beginning of the 21st century, environmental issues have been debate in different countries of the world. Too Many dangers and environmental threats, resource degradation, and environmental contamination are the result of human activities. In order to solve this environmental problems, researchers have come up with a variety of solutions that are often technological, but because of their high cost, they are interested in changing lifestyles and behavioral approaches (Maher, 1990) (Salehi Omran and Agha Mohammadi, 2008). Education has always been the most functional tool for tackling problems, and there is no doubt that today's education will be the maker of the world of tomorrow. Therefore, education can be one of the most important tools for tackling the challenges of human advance in the contemporary world (Bogner, 1982) (Rezaei et al., 2016). The role of environmental education in terms of creating environmental beliefs and cultural foundations for the realization of the principle of prevention is of great importance, creating awareness among the masses of people makes them change their perspective on the environment and improve their relationship with the environment (Blackburn, 1983) (Wheeler, 1985).Understanding people at different levels of the social environment with the principles of environmental protection and creating voluntary incentives and incentives to protect it can solve the problem of environmental degradation and pollution (Khalid, 2003) (Gough, A, and Gough, 2013). If individuals feel within themselves a moral and conscientious task to preserve the environment, their early involvement and cooperation in environmental programs will be provided (Heidari and Heidari 2015) (Karami and Larijini, 2015).

According to the definition of the Universal Conservation of Nature and Natural Resources Alliance, which is known as the Nevada definition, environmental education is the identification of values and explanation of concepts in order to create the skills and trends needed to understand the interdependencies between man, his culture, and the environment surrounding He, environmental education, also includes activities such as decision making and self-regulation of behavioral laws related to environmental quality (IUCN, 1970) (Palmer, 1998).

According to the UNESCO Educate Commission, environmental education is the process of recognizing values and clarifying concepts to gain the skill and attitude necessary to understand and appreciate the inner human relationships, culture, and biophysics surrounding it. Environmental education also discusses decision making and environmental quality (Shobeiri and Abdullahi, 2009). Also, a group of environmental education experts is an active process in which knowledge, knowledge, and skills are enhanced and lead to understanding, commitment, informed decisions and constructive activities for the management of all environmentally-friendly components (Lahyjanyan, 2012), this Education must be knowledge of the oven If provided, including social, natural and human sciences, then environmental education should give insight into the interaction between human resources and natural and between development and the environment (WCED, 1978) (Karami et al., 2016).

Environmental education development is one of the main tasks of the community (Kals et al., 1999) (Heimlich and Ardoin, 2008). Many community sectors such as the family, school, community, environment, interest groups and the media can play a vital role in this (Jickling and Spork, 1998) (Pooley and Connor, 2000). Therefore, the transfer of environmental education to students is the task of schools. In this regard, teachers should be prepared to transfer knowledge and environmental hydrology to students (NRC, 2007) (Kumar et al., 2015). Teachers are key players in the environmental education discourse (Saad and BouJaoude, 2012). One of the most common problems associated with learning about the environment is often a misunderstanding of students about different environmental concepts (Leeming et al., 1997). Teachers play an essential role in addressing such mistakes. This question poses the question: Do teachers have the knowledge, attitude, and readiness to help students correct such errors? (Stokes and Crawshaw, 1986).

It should be noted that if the teachers themselves are also mistaken, they are more likely to pass on misperceptions to their students (Swan, 1999). Various researchers believe that inadequate teacher knowledge and a lack of confidence in environmental education are rooted in the absence of background information during university studies (TDT 2012). They have profound mistakes about environmental issues, and these misunderstandings are likely to be passed on to students (Thathong, 2010), and obstacles to proper perception of the subject matter of the environment (Stapp, 1999), the lack of interdisciplinary education, including teacher reluctance For discussion, a subject is inherently intangible and is not immediately visible (Tolba, 1997) (Wilkins, 2008). Therefore, if this trend continues, the dissemination of environmental information may be restricted to television shows. Thus, these mistakes may remain inaccurate, and no training will be made to correct it (Leeming et al., 1993).

Hestness et al. (2011) argued that confusion and misunderstandings could be addressed by clarifying issues for future teachers. This research discusses how professional teachers are studying a part of the environment (a case study: climate change). In this study, teachers assessed the knowledge, attitude, and knowledge of resources to examine the challenges faced by learners and their ability to participate in the discussion. Through this example, the positive effects of correcting the wrong knowledge were observed (Hestness et al., 2011). The published research generally concluded that teachers, students, and the general public had a perception of climate change. This is a complex cycle that begins with the lack of teacher perceptions about this phenomenon. Then, it is transmitted to learners and intensified by inadequate and incomplete information collected from other sources. A solution to these issues may be found in the classroom (Hestness et al., 2011). Therefore, it is necessary to assess the knowledge, attitude, preparation, and performance of teachers in the field of environmental education. So far, several studies have been conducted on the relationship between environmental attitudes and practices, some of which are referred to below:

Alavi Moghadam et al., (2008) designed and distributed a questionnaire among 75 students selected randomly to assess the knowledge, attitude, and practice of the students of Amir Kabir University of Technology regarding environmental issues, of which 70 completed questionnaires were returned by the participants. The study found that environmental issues are a priority for students. Also, the results indicate that the amount of information of students of the Amir Kabir University of Technology in this field is on average less than 50%. Among them, the amount of responding to environmental issues among students of Faculty of Mechanical Engineering from students of other selected faculties (Alavi Moghadam et al., 2012).

Salehi Omran and Agha Mohammadi studied the knowledge, attitude and environmental skills of primary education teachers in Mazandaran province in 2008. The method is descriptive, and survey type and data collection tool is an environmental behavior assessment questionnaire. The questionnaire was conducted on 383 elementary school teachers. The results of their research show that more than 69% of elementary athletic teachers agree or agree on appropriate environmental behaviors. Also, teachers' knowledge of environmental behaviors was modest, and about 72% of them said they typically have environmental skills. But in terms of gender, the positive environmental attitudes of female teachers are more than male teachers. However, in terms of skills, no significant difference was found between male and female teachers (Salehi Omran and Agha Mohammadi, 2008).

Ghanadzadeh et al. Reviewed knowledge, attitude and practice of Arak city students and teachers about waste management to provide appropriate educational methods. This study was conducted on 1739 students and 149 teachers in Arak city in 1391. The cluster sampling was done in the city, and the knowledge, attitude, performance and appropriate educational resources related to the proper management of wastes were collected from their schools and teachers. The mean score of knowledge and attitude of students in the study was 4.1 (± 8.9) and 20.63 ± 5.9 (35 points) respectively. Regarding the distribution of abundance of information resources, the best way to learn from the viewpoint of the students was to study 441 people (29%), but the impact

of learning through the Internet was very low (48%) (32%). Also, there was a significant difference between the best educational method from the students' point of view according to different educational levels (P = 0.001) (Ghanadzadeh et al., 2013).

Zamani Moghadam and Saeedi in 2013 experimented with the impact of environmental education on improving the knowledge, attitude, and skill of the elementary school teachers in the education district of Tehran. The statistical population consisted of all elementary teachers in region 12 of Tehran which were selected by simple random sampling method. The experimental group was divided into two groups of control and control groups (30 controls) from both groups. For collecting pre-test and post-test data, a researcher-made questionnaire, Knowledge and Attitude and Environmental Skill Assessment Questionnaire (Salehhi and Aghamohammadi, 2008), was used with a few changes. The reliability coefficient of this questionnaire was obtained through Cronbach's alpha. Calculated. To analyze the data, independent t-test was used. The results of independent t-test showed that there is a significant difference between the amount of knowledge, attitude and environmental skills of teachers in pre-test and post-test, and environmental education has a positive effect on improving the knowledge, attitude and environmental skills of teachers (Zamani Moghadam and Saedi, 2013).

In a study by the Organization for Economic Co-operation and Development (OECD) and the political development of environmental education in Australia, Austria, Finland, Germany and Norway, pre-service teacher education is considered as an Achilles heel for environmental education. However, by the year 2000, there has been no national or regional systematic review of teachers' environmental education testing as a component of pre-service training in different countries. McKeown-Ice (2000) found out in a study of 446 institutes that teachers' interest and knowledge, along with government certification policies, are two main reasons for this.

However, some higher institutions in the United States provided a forum for teachers' environmental education, some of them focused on the objectives of environmental education for teachers. In terms of the capacity of the faculty, in one-third of the colleges, a teacher has an environmental education specialist, while half of them do not have this specialty. Most higher education institutions do not set this commitment to environmental education, as most environmental education components are pre-service teacher training programs (McKeown, and Hopkins, 2010).

The results of this study show that although the knowledge, attitudes, and skills of teachers in environmental education have been studied in different studies, so far, the relationship between teachers' attitudes and readiness for environmental education has not been considered. This study aimed to investigate the attitude of primary school teachers in Tehran toward environmental education with their readiness for environmental education for students.

2. MATERIALS AND METHODS

Official Iranian Education System: The educational system in Iran consists of three general sections. These three sections include formal, informal, and tacit education (Table 1). Each of these tutorials has its audience, and different people can use one, two or all three of these tutorials. Official education is a set of training that a person acquires in the educational system, both public and private, and receives a certificate from the Ministry of Education, the Ministry of Science, Research, and Technology or other government agencies. And a process in which both the teacher and the learner are aware of the learning process, in other words, the teacher knows that he is teaching, and the student also knows that he is learning to see. Therefore, the teacher is free to teach and learn in learning, and both voluntarily participate in the learning process (Zabahyan, 2005). As shown in Table (1), Iran's formal education system includes preparedness, schools (all levels of education), higher education (Ministry of Science, Ministry of Health, and Azad University), technical and vocational education, and literacy movement. According to the goals defined by the Ministry of Education for the first and second grades of secondary education, the elementary period is the same for all students. In this study,

elementary school teachers in Tehran have been selected as a case study to assess the teachers' attitude toward environmental education and their relationship with their readiness for environmental education to students.

Table 1. The educational system of the Iran and contact groups

Row	Title	Contact
1	Formal education	Preschool
		Schools (All Grades)
		Higher Education
		Technical and professional
		Literacy Movement
2	Informal education	Managers and Policy Makers
		The General People
3	Tacit tutorials	Visual
		Listening
		Writing

Research method: This descriptive- sectional study was conducted on 127 elementary school teachers in Tehran who were selected by stratified sampling and appropriate allocation and randomly selected in each class. Thus, among the elementary schools of education, ten schools and in each school, the samples were randomly chosen among teachers of the first, second, third, fourth, fifth and sixth grades of elementary school.

The questionnaire consisted of three parts: general questions, attitude questions (14 queries) and environmental education readiness questions (18 items), which were based on the Likert spectrum. Seven faculty members verified the content validity of the questionnaire, and its reliability was confirmed by the completion of a questionnaire by 42 elementary school teachers and using Cronbach's alpha (Santos, 1999) (Cronbach's Alpha = 0.81).

In this study, to determine the attitude and readiness level, the quantitative score obtained from the questions was used and the score achieved on the basis of a 100% achievable score in three good groups (more than 75% possible score), moderate (75-50% Poor and poor score (less than 50% of the attainable scores) were used, and the Pearson correlation coefficient was used to determine the relationship between the parameters.

The collected data were entered into the SPSS software, and the research hypothesis was used by statistical tests Analyzed. The significance level in the tests was considered as 0.05.

3. RESULTS

Demographics status of respondents (general questions of the questionnaire)

Table 2. Frequency distribution and percentage of frequency of demographic variables.

Demographic variables	Variable items	frequency	frequency percentage
Age	20-30	20	15.8
	31-40	68	53.5
	41 more	36	28.3
	unanswered	3	2.4
Gender	Female	84	66.1
	Male	43	33.9
	unanswered	0	0
Education	Undergraduate and less	4	3.2
	Bachelor	96	75.5
	Master and more	27	21.3
	unanswered	0	0

4. ANALYZE THE MAIN RESEARCH QUESTIONS

In general, the mean score of attitude and preparedness for environmental education was 43 ± 4 21.4 from 70 points, 57 ± 3.43 from 90 points. Table 3 presents the results of teachers' attitudes towards environmental education by gender.

Table 3. Status of attitudes of primary school teachers towards environmental education.

Parameter / Gender	Knowledge status		
	Weak, number (percent)		good, number (percent)
Female	17(0.24)	Female	16(19.05)
Male	10(23.26)	Male	9(20.93)
Total	27(21.26)	Total	25(19.68)

The results of teachers' attitudes (Table 3) show that 19.68% of teachers have a good attitude towards environmental education and other teachers have a moderate to moderate attitude. The t-test was used to examine the difference between female teachers 'and male teachers' attitudes. This hypothesis is based on One-Sample Test and Test Value = 3. The test

sig tells you if the average of the factors are equal or not? In other words, attitudes of Tehran Elementary Teachers toward Environmental Education with the Attitudes of Elementary School Teachers in Tehran Are Equal to Environmental Education?

Table 4. The difference between Attitudes of Female Teachers and Teachers to Environmental Education.

TEST Value=3				
95% confidence level		Average difference	two domains Sig	T
upper limit	lower limit			
0.61	0.18	0.14	0.00	2.94

The result of the study and analysis of the hypothesis of the difference between the attitude of Tehran primary school teachers towards environmental education and the attitude of elementary school teachers in Tehran toward environmental education in Table 5 shows that the zero assumption (claim of equality of attitudes of elementary school teachers in Tehran Environmental education with the attitude of elementary school teachers in Tehran toward environmental education) is confirmed. Therefore, the attitude of Tehran primary school teachers towards environmental education with the attitude of elementary school teachers in Tehran toward environmental education has the same status.

Table 5. Educational status of primary school teachers for environmental education for students.

parameter / gender	Knowledge status		
	Weak, number (percent)		good, number (percent)
Female	20(23.81)	Female	11(13.10)
Male	12(27.91)	Male	6(13.95)
Total	32(25.20)	Total	17(13.39)

Table 5 presents the results of teachers' preparedness for environmental education for students by gender. These results indicate that 39.13 percent have a good environmental education level, and other teachers have moderate to low levels.

The T-test was also used to examine the level of readiness of female teachers and male teachers. This hypothesis is also based on the One-Sample Test and Test Value = 3. The test Sig tells you if the average of the factors are equal or not? That is, the readiness of elementary school teachers in Tehran to provide environmental education to students with the readiness of elementary school teachers in Tehran to be environmentally friendly is equal to the students?

The result of studying and analyzing the hypothesis of the difference between the readiness of the elementary school teachers in Tehran for environmental education with the readiness of the elementary school teachers in Tehran for environmental education in Table 6 shows that the zero assumption (the claim of the equal readiness of elementary school teachers in Tehran for environmental education With the readiness of primary school teachers in Tehran for environmental education), the result is that the readiness of the elementary school teachers in Tehran for environmental education is different from the readiness of the elementary school teachers in Tehran for environmental education, and considering the mean of this parameter, it can be concluded Female teachers' readiness for environmental education is higher.

After examining the above mentioned, the relationship between the attitude of primary school teachers in Tehran and the environmental education with their readiness for environmental education was given to the students. In this regard, considering that 127 teachers completed the questionnaires, the distribution of normal responses, So Pearson Correlation Coefficient was used, the results of which are presented in Table (6).

As shown in the table below, the correlation coefficient (r) between the attitudes of primary school teachers in Tehran toward environmental education and their readiness for environmental education to students is 0.738, although the correlation is not complete, but in the correlation coefficient of 0.738, the coefficient of determination is 0.545, Which shows a relatively good correlation. Therefore, there is a positive relationship between the attitudes of primary school teachers in Tehran and environmental education and their readiness for environmental education is

positive. As teachers' attitude towards environmental education is more and more appropriate, their readiness for environmental education to students will be more.

Table 6. Assessment difference of the level of readiness of male teachers and female teachers for environmental education.

TEST Value=3				
95% confidence level		Average difference	two domains Sig	T
upper limit	lower limit			
0.59	0.12	0.23	0.24	2.72

Table 7. Correlation between the attitude and readiness of primary school teachers in Tehran for environmental education for students.

PV	The correlation coefficient (r)	Parameters
0.356	0.738	Attitude and readiness

5. DISCUSSION AND CONCLUSION

As we have mentioned, today's world spends most of its most critical days in terms of destruction of natural resources, increasing environmental pollutions, climate change, end of fossil fuels, mass production of waste and much of the environmental problems caused by humans. Attends schools and is an outlet for education. Given the growth and development of human societies, education is an essential part of every effort that is becoming a vital and growing authority in national and global policy for community development and human development. In this context, teachers as the most critical pillar and source in education, in the knowledge of environmental developments and knowledge, attitude and skill will be able to fulfill their dignity decently. Therefore, the formal education system and teachers play an essential role in environmental education. Thus, in this study, the relationship between attitude and preparation of primary teachers in Tehran for environmental education was studied.

The results showed that teachers' attitude of level (19.68% good and 59.06% average) and performance (13.39% good and 61.41% average) had a moderate level, considering that they would need courses and educate for "environmental education" The main reasons for this level of achievement are environmental disputes in the media and social networks over the last few years, which highlights the need for its quick educate (considering the incidents and consequences of environmental degradation in the past few decades).

Also, according to the sample size, the distribution of responses is normal. Therefore, Pearson correlation coefficient was used to study the relationship between "attitude" of primary teachers in Tehran and environmental education and their relation to their "readiness" for environmental education. The result was 0.738 Comes and shows a reasonably good correlation. Therefore, to prepare teachers for providing environmental education to students, it is essential that they provide them with appropriate training through pre-service and in-service education to improve their attitude towards the environment and its education. In this context, for examining how environmental education enters training courses for teachers' readiness, Heimlich et al. (2004) reviewed 449 institutions throughout the United States.

More than half of the institutions offered an environmental education course independently, and only 14.8% of respondents proposed environmental education as a combination of other training courses. In another study at two Farhangian University (teacher training college) in Belgium, Van Petgum et al. (2005) examined the implementation of environmental education. Almost all of the secondary schools in Flemish province provide environmental education to a degree, but in most cases, there is no coherent and comprehensive approach. In fact, there is no environmental education in teacher education programs. Although colleges and universities offer environmental education, they are generally confined to topics related to ecology in geography or biology. Through interviews, questionnaires and group discussions, critical constraints for implementing environmental education in teacher education programs include: lack of knowledge, the reluctance to develop new fields, teachers' reluctance (with the exception of science teachers) for environmental education because they feel that this responsibility The teacher of science, including the lack of open-mindedness for innovative learning efforts. This study suggested the need for success stories to inspire teachers and encourage learners to participate in policy-related activities for environmental education.

Although in our country's educational system and the primary level, there is no independent lesson in environmental education, with pre-service and in-service training for teachers, it is possible to create a context for increasing knowledge, attitude, performance, and, as a result, preparedness for them. To provide environmental education in the classroom.

For better understand how teachers are prepared and the entry of environmental education into the educational system, Powers (2004) studied the views of the faculties that educate their pre-service teachers. This research examines the integration of practical and theoretical environmental education in the course of educational methods, which identifies administrative barriers and addresses the possibility of reducing these constraints. The results of this study indicate that the environmental education course is independent and confident, as well as limited educational time and students' exclusion from the course, the most critical limitation is the introduction of environmental education.

The results also highlight the importance of entering environmental education in pre-service teachers, encouraging teachers to teach social sciences in the context of the local environment. In our country, there are similar obstacles, such as teachers 'lack of readiness, lack of independent environmental education, limited teaching time and distance from students' lessons at different levels of the year, including summer and new year holidays for environmental education, thus, by modification of the educational system at the level of the lessons, Headings and change of teacher education courses can eliminate many barriers to environmental education. Also, part of the issue of inadequate preparation and presentation of environmental education in the classroom is mistaken by teachers during teaching, which recommends the use of student-centric methods for training teacher educators to correct their mistakes in environmental education. Teachers, for example, can research, present and discuss more profound their findings with their classmates. Through such discussions, they are exposed to a variety of opinions, and the exchange of information leads to the evaluation and correction of previous misunderstandings.

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