

Investigating Effectiveness of Multimedia Software -Based Citizenship Education on Increasing Citizenship Awareness of 8 Year-Old Children

Akram Ghapanchi, Badri Shahtalebi

Department of Educational sciences, Khorasgan (Isfahan) Branch, Islamic Azad University,
Isfahan, Iran

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ABSTRACT

The current study was conducted with the aim of investigating effectiveness of multimedia software -based citizenship education on increasing citizenship awareness of 8 year-old children. The method used in this study was semi-empirical with pretest and posttest and two testing (boys and girls) and control groups (boys and girls). The statistical population of the study was composed of all male and female primary school students of Isfahan city in grade 2 who was over than 26572 people from which two male and female schools were chosen by random cluster sampling. Then, two classes were chosen as test group and control group among grade 2 classes in both schools. After the pretest for both groups, test group (boys and girls) was trained for 5 weeks by using multimedia of citizenship culture education. At the end of period, both groups were also tested. Data collecting tools used in this research was the combination of 5 fields including national identity, religious teachings, an introduction on rules and regulations, social relations and behavior and protecting environment whose validity was verified by teachers and consultants and several teachers of grade 2 and its stability was estimated 0.85 using classification method. The study findings showed that there is difference in pretest and posttest scores of the participants in both male and female groups in all aspects of training. Also, the results indicate that effect of multimedia software based citizenship education on male group is more than female one. These trainings have also had the most effect on protecting environment and the lowest effect on religious teachings.

KEYWORDS: Education, Citizenship, Citizenship Education, Software, Effectiveness.

INTRODUCTION

Many thinkers have discussed concept of citizenship with respect to importance of citizenship in contemporary age. Citizenship is a style of living in a city according to certain rules, regulations and principles. Some issues such as emerging digital generation, increasing and changing expectations of the education system, gap between expectations, abilities and desires make the necessity to look at human, society and the world differently and intervene principally to convert human assets to invest and make some changes in citizens' thoughts and opinions which is possible through educational systems. Teaching life skills, understanding the rights and duties of citizenship, training citizens how to live in the society, etc. Are some educational requirements of modern world which need special attention and a strong determination whose first step is educating citizens by using modern technology? To be effective, this education requires a comprehensive, detailed plan, a professional group, adequate and modern educational tools, ultimately a system of control and evaluation, also an effective system of punishment and reward to define, also explain and implement all these steps as a citizenship educational process (Shahtalebi, 2011).

In fact, citizenship subject explains the citizen relationship with city or government management. In this regard, Janosky (1998) states that citizenship as a social and political process has been discussed since 19th century in civil societies as a serious interaction between government and nation and simultaneously transformed to an important social and political issue. Citizenship is questioning about nature of society, justice, care, responsibility, government, freedom, social interactions, respect and particularly values which includes type of people's responses in addition to their type of communication with such issues (Kambz, 2001). In addition, citizenship has been exactly linked to human rights in social life (Parker, 2000). It is ideal when all citizens are combined with national society and constitute that society's nation (Ibid; Narimani, 2010).

Citizenship education is "developing people's abilities to participate, make decision, consciously and responsibly act in social, political, economic and cultural life. This education includes human rights, continuous and comprehensive development, ethics and values, peace, social equality and respecting differences". (Lotfabadi, 2004). In Torni's point of view, citizenship education is the process of transferring knowledge, values and required attitudes for political constancy and participation of society from one generation to another. Citizenship education is

* **Corresponding Author:** Badri Shahtalebi, Department of Educational sciences, Khorasgan (Isfahan) Branch, Islamic Azad University, Isfahan, Iran

providing with the purpose of transferring social and cultural realities from primary school to university, but the most important purpose of citizenship education is increasing citizenship skills and abilities of citizens who need awareness and participation as critical parts of their life. Citizenship education is necessarily done by considering citizens' need and its content will create some abilities in people so that they can provide comprehensive development and protect valuable social legacies of future generation in the society as well as reduce social harms.

Citizenship education plans should emphasize the involving people in the activities related to fields of their life (society). Obviously, such education should take place both inside and outside of schools. Effective citizenship education, from the beginning, teaches the students confidence and responsible behaviors, socially and morally (whether in the class or other places).

Other aspects of such education are involving teenagers and youths in issues related to life conditions and society concerns (learning through participating and volunteering in charitable and collective activities should be considered in this category).

Finally, the third aspect of citizenship education can be considered as transferring knowledge, skills and values to children through which they recognize themselves as a useful member of the society. Therefore, citizenship education goals usually should be determined around three subjects of teaching social and ethical responsibilities, social activities and teaching political literacy (Kazemi et al, 2010).

Although, citizenship education has been common in various forms in many countries, it has had many fortunes these days and has been interested very much. So that, some authors know it as a savior of the contemporary world (Birza, 2000).

The first international attempt to conceptualize citizenship education was done by IEA Research Team by designing and selecting a conceptual model (Octagonal model of citizenship education IEA) which represents opinions of major actors and scientists who knew it as an appropriate one for citizenship education in a democratic society (Torni – Powerta et al, 1999).

The second famous attempt was about holding a seminar of citizenship education in January 1999 by UK Curriculum and Assessment center in London. In this seminar which was held with the purpose of concluding from comparative studies on IEA citizenship education, it was suggested to develop a citizenship continuum and citizenship education in which remarkable experts and analysts argued that citizenship education should be conceptualized and this concept be placed across a continuum of minimum to maximum meaning to be debatable.

The third collective attempt was a meeting of international allied board of scientists in Center for Multicultural Education, University of Washington in 2003-2004 which designed an international study on citizenship education and democracy in schools, whose result was recognizing a series of basic concepts and principles which should constitute an infrastructure of citizenship education in multi-cultural democratic governments (Bankes et al, 2005 as quoted by Sceler and Starky, 2005).

UNESCO has introduced citizenship culture education as training kids and teenagers from their early childhood with the purpose of preparing them to participate in decisions related to the society and pointed out to the necessity of paying attention to the concept of cultural differences in education by stating that this education is not understandable without understanding and considering the concept of culture. Therefore, UNESCO tries to involve all members of the society in citizenship culture education by proposing democratic culture theory (UNESCO, 2010).

Citizenship effective education studies on education needs, determines some correct strategies to reach the goals, selects some appropriate training tools, utilizes some appropriate methods of teaching, examines the results of these activities and follows their results to ensure final effect (Atashpour, 2009). Effective training is one which is designed by relying on values in order to develop and encourage national and human values (Saber & Ahmadzadeh, 2002).

Then it must be acknowledged that citizenship behaviors can be learned with many scientific structures. In this case, learning is considered as a distributed activity which has its special usage in real situations and help people in their real life (Rabani et al, 2007).

Learning occurs through all types of media, strategies and processes which interactive multimedia is just one of them. This media can be used in combination with computer games to involve people and make educational environment more interesting. (Reddi & Meshra, 2003).

In the age of information technology and communication, using computer and multimedia has been welcomed in form of computer software with the advent of computer technology, so multimedia software can lead to more effective and deeper learning by providing a rich environment full of various prompts and interact with users. In other words, multimedia is an attractive combination of hardware and software which allows people to combine video, animation, audio, graphics and testing resources to develop effective presentation on computers (French, 1997). Multimedia components are determined in the presence of text, images, audio, animation and video (Phillips, 1997).

Many researchers and teachers support the usage of game software for education. Papert (1993), stated that game software teaches children that some forms of learning which have quick steps, are really stimulating and rewarding. Boyle (1997), states that games can facilitate participation in learning; and provide a powerful format for educational environment. Moreover, some studies indicate that careful usage of selected computer games can develop thinking (Aliya, 2009). One of the educational software features is that they are tools to transfer educational materials to learner through computer and they must be designed properly so that users can learn using them quickly and they should not be time consuming. On the other hand, educational software should have adequate beauty and attractiveness to encourage users to follow learning. Another important point in educational software is the method of providing titles, as lessons fluency leads users to learn more quickly and forget more lately. Also, testing on the educational software is so important, as its educational efficiency appears. Immediate display of test results should be so simple and effective, so that users can understand their level of effort well.

Educational multimedia software has the most efficient on kids' impressionable minds and much more useful in children development process, but they will not have high efficiency if they do not be designed principally and also may have some irreparable harms to children social development process (Razavi, 2007). Irrespective of the type of media in citizenship education, various studies have been conducted:

"Citizenship education as the most important cultural need of citizens" by Esmaeili & Ghasemi (2002); "factors effecting on citizenship education" by Sharafi & Taherpour (2008); "determining components, content and efficiency of citizenship culture education in junior high school course" by Shahtalebi (2011); "common areas of citizenship studies" by Grossman (2000); "effects of citizenship rights on teacher – student performance" by Lieu (2002), "understanding the concept of citizenship among high school students in USA" by Chive & Martin (2005) are some studies related to this research.

Methodology, population, sample, sampling method and research tools:

Semi-empirical method (pretest and posttest) with two control and experimental groups has been used in this study according to the aim of this research. Dependent variable, that is, increasing children awareness in citizenship aspects is also considered by software manufacturers. Statistical population in this study is school students in 2nd grade (8 year-old children) of Isfahan city who was 26572 people according to statistics of Education Administration of Isfahan Province (2010-2011). Cluster random sampling was used in this study; the sample was initially selected from district 4 using it. In the next step, two schools were randomly selected among male and female elementary schools of this district; in the next step four classes in grade 2 were selected among them to conduct the study (2 test groups, 2 control groups).

Test used in this study is researcher made to measure increasing level of awareness of the students which includes 26 questions. Some university professors and teachers of grade 2 in elementary school and citizenship education experts were provided with this questionnaire to determine its validity and it was found validated. Classification method is used in this study to determine the questionnaire stability. Its stability was calculated 0.85 by using this method which indicates high level of reliability of the study tool. Analysis of the study is done by using SPSS software in two levels of descriptive and inferential statistics. In descriptive statistics section, statistical characteristics such as frequency, percentage, average and standard deviation and in inferential statistics section, Levine test and Kolmogorov-Smirnov test have been used.

Study findings:

Main hypothesis: citizenship education can increase the level of citizenship awareness of 8 year-old children of Isfahan city.

Table (1): Analysis of covariance of overall score in studying groups

Source	Total square	Degree of freedom	Mean square	F	Level of significance	The Eta	Statistical capacity
Pretest	1354.753	1	1354.753	155.874	0.001	0.675	1.000
Group	460.787	1	460.787	53.017	0.001	0.414	1.000

As results of table (1) indicate, there is a significant difference in these groups in level of $P < 0.01$. This difference is useful for the test group, according to overall score average of citizenship awareness level of 8 year-old children in Isfahan city, as in test group, citizenship education is more than average of control group. It means that citizenship education could increase the level of children awareness in all these aspects.

Hypothesis 1: Citizenship education can increase the level of 8 year-old children awareness of regulations.

Table (2): Analysis of covariance of law acceptance score in studying groups

Source	Total square	Degree of freedom	Mean square	F	Level of significance	The Eta	Statistical capacity
Pretest	10.006	1	10.006	8.707	0.004	0.111	0.829
Group	27.089	1	27.089	23.573	0.001	0.252	0.998

As results of table (2) indicate, there is a significant difference in the level of $P < 0.001$ between groups. This difference is useful for the test group, according to overall score average of law acceptance in children. It means that citizenship education could increase the level of children awareness in law acceptance aspect.

Hypothesis 2: Citizenship education can increase the level of 8 year-old children awareness in aspect of social relationships.

Table (3): Analysis of covariance of social relationships score in studying groups

Source	Total square	Degree of freedom	Mean square	F	Level of significance	The Eta	Statistical capacity
Pretest	15.908	1	15.908	11.773	0.001	0.144	0.923
Group	21.211	1	21.211	15.698	0.001	0.183	0.974

As results of table (3) indicate, there is a significant difference in the level of $P < 0.001$ between groups. This difference is useful for the test group, according to average score of social relationships in children. It means that citizenship education could increase the level of children awareness of social relationships.

Hypothesis (3): Citizenship education can increase the level of 8 year-old children citizenship awareness in conserving environment and sustainable development.

Table (4): Analysis of covariance of conserving environment and sustainable development score in studying groups

Source	Total square	Degree of freedom	Mean square	F	Level of significance	The Eta	Statistical capacity
Pretest	18.715	1	17.715	15.471	0.001	0.181	0.973
Group	20.982	1	20.982	17.346	0.001	0.199	0.984

As results of table (4) indicate, there is a significant difference in the level of $P < 0.001$ between groups. This difference is useful for the test group, according to average score of conserving environment and sustainable development in children. It means that citizenship education could increase the level of children awareness of how to conserve environment and sustainable development.

Hypothesis 4: Citizenship education can increase the level of 8 year-old children citizenship awareness in civil and religious lessons aspect.

Table (5): analysis of covariance of national identity score in studying groups

Source	Total square	Degree of freedom	Mean square	F	Level of significance	The Eta	Statistical capacity
Pretest	10.136	1	10.136	22.366	0.001	0.242	0.997
Group	14.925	1	14.925	32.958	0.001	0.320	1.000

As results of table (5) indicate, there is a significant difference in the level of $P < 0.001$ between groups. This difference is useful for the test group, according to average score of national identity in children. It means that citizenship education could increase the level of children awareness of national identity.

Hypothesis 5: Citizenship education can increase the level of 8 year-old children citizenship awareness in civil and religious lessons aspect.

Table (5): analysis of covariance of religious lesson score in studying groups

Source	Total square	Degree of freedom	Mean square	F	Level of significance	The Eta	Statistical capacity
Pretest	11.146	1	11.146	15.019	0.001	0.177	0.969
Group	3.668	1	3.668	4.942	0.029	0.066	0.592

As results of table (6) indicate, there is a significant difference in the level of $P < 0.001$ between groups. This difference is useful for the test group, according to average score of religious lesson in children. It means that citizenship education could increase the level of children awareness of religious lessons.

Hypothesis 6: There are some differences between increasing the level of citizenship awareness of 8 year-old children in Isfahan city in terms of gender.

Table (6): covariance analysis in studying groups in terms of gender

Source	Total square	Degree of freedom	Mean square	F	Level of significance	The Eta	Statistical capacity
Pretest	1190.149	1	1190.149	143.049	0.001	0.662	1.000
Gender	6.103	1	6.103	0.734	0.395	0.010	0.135
Group	467.235	1	467.235	56.159	0.001	0.435	1.000

As results of table (7) indicate, there is a significant difference in the level of $P < 0.001$ between groups. This difference is useful for the male test group, according to average score of female test group. It means that citizenship education could increase the level of male students' awareness than female ones.

Table (8): Comparison of mean and standard derivation of test and control group with overall score of 8 year-old children citizenship awareness in terms of gender

Statistical indicators		Girl		Boy	
Variable		Mean	Standard derivation	Mean	Standard derivation
Overall score	Test group	14.26	4.59	18.86	5.63
	Control group	11.82	4.62	11.32	4.82

As results of table (8) indicate, the average score of the level of 8 year-old children citizenship awareness of Isfahan city in male test group was more than female one.

DISCUSSION AND CONCLUSION

According to this study, multimedia software based citizenship education could increase the level of 8 year-old children citizenship awareness in the aspects of national identity, obedience to municipal regulations, conserving environment, civil and religious lessons, social behaviors and relationships.

DISCUSSION

According to the research results, citizenship education based on multimedia software was effective on citizenship awareness of 8 years old of ISFAHAN in national identity, observance of civil laws and regulations, environment preservation, religious and spiritual teachings and social relations and behavior aspects. Table 1 shows that there is a significant difference between experimental and control groups in $p < 0.01$ level. Given that total mean score of 8 year-old children of ISFAHAN city was greater for participants in experimental group of citizenship education than control group. It seems that in order to develop and preserve healthy democratic communities, cities need people with citizenship tendencies who can participate in community decision making for correctional purposes by understanding value, opinion and cultural differences. In citizenship pedagogy literature, the main aim is fostering good citizenship. Therefore interpretation of this finding can be that, so far efforts in citizenship education aspects and categories have been fragmented and these efforts have not been made in the form of formal education system and separate text books. Such trainings are usually offered non-systematically and in the form of contents such as social trainings. These trainings were also traditional and with emphasis on subject approach of curriculum. While existing characteristics of today's world such as threats of local and national identities, duplication of life environment variables, multiple communications and complex interactions require offering of citizenship education in new formats, methods and educational contents. So that citizens can acquire a relative readiness for confronting with negative components and conformity with positive ones. This has a particular place in target population (i.e. children citizens) due to institutionalize appropriate behaviors instead of inappropriate ones. Results of citizenship behavior education by using multimedia software showed that children can learn appropriate citizenship behaviors well and promote their learning in this respect. The difference between children's awareness in multiple aspects in question, in post and pre-test shows the effectiveness of training. Table 2 shows that there is a significant difference between experimental and control groups in $p < 0.001$ level. Given that the total mean score of

law abidingness of children was greater for participants in experimental group of citizenship education than control group, this difference is in favor of experience group of citizenship education i.e. citizenship education could promote children awareness in law abidingness in 8 year-old children of ISFAHAN. It seems that law can organize shared relationships on the one hand and establish justice on the other hand. To appreciate law necessity we must attend to two human characteristics: avidity and self-love. While these two in moderate level can set the stage for trance dense, if go beyond suitable levels can set the stage for insubordination and extreme exploitation of others. Law abiding is the process of citizenship understanding expansion in order to reach main social purposes through respect for individual and collective rights and logical efforts to amend any law which prevents development of a country. Table 3 shows that there is a significant difference between experimental and control groups in $p < 0.001$ level. Given that the total mean score of social relationships of children was greater for participants in experimental group of citizenship education than control group, this difference is in favor of experience group of citizenship education. i.e. citizenship education could promote children awareness in social relationships, in 8 years old children of ISFAHAN. Now many citizens struggle with numerous difficulties in behavioral domains as a citizen. While these difficulties prevent them to be a good citizen, a successful person, a mature parent, a good spouse or even a dutiful worker. And it had affected strongly on position and conditions of cities. Origins of these dilemmas are unfamiliarity with citizenship rights and duties and lack of internalization of suitable citizenship behaviors.

On the other hand, in our society external control is being used rather than internal in controlling people, but unfortunately it has failed to promote internal control or institutionalize appropriate behaviors so far. We take actions for organizing the community in the traditional and chronic forms.

Unfortunately we make little effort to internalize them. However everyone in a community always needs the essential skills and abilities required to self-control through internal behavior. Table 4 shows that there is a significant difference between experimental and control groups in $p < 0.001$ level. Given that the total mean score of preservation of environment and sustainable development was greater for participants in experimental group of citizenship education than control group, this difference is in favor of experience group of citizenship education. i.e. citizenship education could promote children awareness in respect of preservation of environment and sustainable development, in children. Also results (pre-test and post-test comparisons in both two groups show that citizenship education in preservation of environment aspect has the most effectiveness in comparison to other research aspects.

It seems that one of the reasons of high effectiveness of education compared to others is placing environmental materials into frameworks of emotional stories with attractive storytelling, which portrait appropriate and inappropriate behavior toward environment, so those children become engaged with story. World environmental disturbances execute utilization of natural resources and conflict between nature and technology calls for a new thought and will in order to return to principals and using methods compatible with environment. Raising accountability of international society to environment ,spiritual wakefulness and acceptance of ethical standards utilizing of the environment ,attention to long term benefits and sustainability instead of transient and materialistic dominance are among necessities which its key lies in purposes of environmental trainings. Table 5 shows that there is a significant difference between experimental and control groups in $p < 0.001$ level. Given that the total mean score of national identity was greater for participants in experimental group of citizenship education than control group, this difference is in favor of experience group of citizenship education. I.e. citizenship education could promote national identity of children. Also results showed that citizenship education in national identity aspect had more profound effect on girl's participants than boys. Identity is a response to the how and why a person is.

In fact is a set of features which differentiate one person from the others. Therefore no human can continue social life without it. On the whole, there are two kinds of human identity: personal identity and collective identity. Personal identity is particular personal qualities which give characterization to people and differentiate him or her from others. Collective identity is an identity which people achieve in community and through relationships with existent social groups or units. Collective identity plays two different roles in respect to social relations network and social cohesion. If collective identities serve toward the main values and regulations of social system and interact with each other, the uppermost level of collective identity i.e. social identity can be realized. Collective identity, as one of the most important components of citizenship studies, is important because it is the most legitimate manifestation of shared social identity in comparison to family, local, ethnic and civic identity. Although national identity has political, social, economic, cultural, geographical, religious and historical aspects with numerous components, it is believed that cultural aspect is the most important aspect of it. Since cultural components of national identity organize other aspects. Also pre-test results show that in both two groups the least accurate responding was found in religious and spiritual aspect in comparison to other aspects. Table 7 shows that there is a significant difference between experimental and control groups in $p < 0.001$ level based on gender. Given that total mean score of citizenship awareness was greater for experimental group of boys; this difference is in favor of boys in experience group of citizenship education. I.e. citizenship education could promote awareness of boy's

participants more than girls. Results show that, educational multimedia software has attracted more attention from boys than girls for a number of reasons as set out below: designing attractive characters to describe and portrait appropriate citizenship behaviors in fact the children who are more interested in computer games, have more skills in working with software and learn more while they are playing.

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