

Effect of Fire Service Training for Volunteers on Improvement of the Level of Knowledge of Women Mobilization Officers in District 15 in Encountering with Disasters

Dr. Fattaneh Hassani Jafari

Assistant professor, Department of Educational Sciences, Payamenoor University
PO Box 19395 -3697Theran, Iran; f.hassani.jafari@yahoo.com

Dr. Forouzan Zarabian

Assistant professor, Department of Educational Sciences, Payamenoor, University,
PO Box 19395 -3697Theran, Iran; fzarabian@yahoo.com

Simzar Salehi

MA student of Curriculum, Payamenoor University, Shahr ray Tehran, Iran
Department of Imam Khomains Relief Committee, Fire coach, Tehran, Iran; s.sadeghi1391@yahoo.com

Doi:10.5901/mjss.2016.v7n2s2p23

Abstract

The purpose of this research was evaluation of effect of fire service training for volunteers on promotion of the level of knowledge of mobilization women officers in district 15 when encountered with disasters. The method of this research included field study and library research and action investigation. Statistical population included voluntary fire department mobilization officers (120 individuals). Considering the small size of statistical population, the entire population was selected as sample and was randomly divided into two groups of 60 individuals. For data collection, researcher formulated test was used. This 34 item test is scored by a 5-degree Likert scale. The reliability of the test was 0/80 and its validity was confirmed by a group of professors and coaches from the fire department. Data obtained was analyzed using SPSS software including descriptive statistics (graphs and distribution tables) and inferential statistics (independent groups' t-test and one way analysis of variance). The results of the research showed that teaching fire service training topics to volunteers has positive effect on promotion of level of knowledge of women mobilization officers. Meanwhile, education in the form of practice has higher efficiency and is more effective on increasing knowledge level. Additionally, education level does not have much functionality in practical training.

Keywords: Training, Fire Service Topics, Promotion of Knowledge Level, Encountering with Disasters, Mobilization Women Officers

1. Introduction

Undoubtedly, the most important pillar of every organization is the human resources which can guide a country towards developmental goals. Use of human resources which constitute the most valuable and largest wealth of every society has gained attention of governments as an important factor. Therefore, improvement in productivity of human resources needs to be one of the important goals of every organization or institution and correct planning should be made for it. Among factors influential on productivity of human resources is training. Teaching can mean creation of change in individual's knowledge, working style, outlooks about work and interaction with colleagues and supervisors (Doolan & Shooler, 1999; 248).

The society for human resources considers training as a planned process for revision of knowledge, outlook and skill of individuals by way of learning experiences for reaching effective performance in an activity or collection of behaviors in a work situation, in the direction of developing abilities of individuals and with the purpose of providing current and future needs of an organization (Wilson, 2005). Additionally, Laird (1990) considers teaching a systematic and organized activity that leads individuals to learning predicted and predetermined behaviors for adaptation with work standards. Teaching leads to omission of undesired behaviors and creation of new ones.

For realization of the objectives and performing their mission, organizations need trained and experienced individuals. As most studies show, a high percentage of large organizations have official educational programs (French,

1986; p281). Training human resources is important in various dimensions such as organizational, individual and social aspects. By organizational dimensions of teaching, it is meant that it should lead to profitability or at least create more positive outlooks regarding literacy, knowledge and occupational skills at all levels of the enterprise. Additionally, it should help employees to adapt with evolutions and resolve disagreements and in such way takes care of psychological pressure and tension. Personal teaching that ultimately returns back to the organization helps the individual to make better decisions and resolve problems in an effective way and promotes self-development and self-esteem and makes possible to achieve them. It decreases fear of performing new duties and helps the individual overcome psychological pressure, tension, hopelessness and disagreement. Also, socially it improves relationship between groups and individuals. It explains and prepares new employees and those who have transferred to new occupations; it creates an appropriate atmosphere for learning (Doolan & Shooler, 1999; p247, 248).

For teaching human resources, various models have been presented by different experts and specialists. Each of them has applications in accord with various conditions and context. In an educational model, Brighton and Gaud (1999) have presented a four stage model as below.

Determining Educational Needs
Design of a Program
Implementation of a Program
Evaluation of Teaching

In this regard, Brighton and Gaud have noted that in this systematic model, educational needs and their analysis has been taken into consideration. When needs analysis was performed. Special and clear behavioral objectives can be determined that are used in designing educational events and evaluating the results (Shah Alou, 2011).

Considering the mentioned above, since occupations in today's dynamic organizations are more complex, the importance of teaching employees has increased as well. In times when tasks were simple and easily learned and there was little change in technology, employees had little need for increasing and changing their skills. Yet, such situation is rare now a day. Instead, occupational changes occur rapidly and this requires that employee skills are changed and continuously up to dated (Bazdar, 2002; p82). Meanwhile, one of the professions that require teaching and increased knowledge, more than other occupations, is fire services. Fire services are considered one of the most difficult professions in the world. Every day, fire workers tackle numerous problems. Now a day, considering the macro expansion of the city of Tehran, population growth, advancement of construction without observance of building principles and equipment for immunity, centrality of a significant proportion of industries, occupations, factories and office and trade locales in the capital and also location of part of this city on an earthquake fault and danger of natural disasters during various seasons of the year, has made mission of fire department more and more evident in protection of immunity and provision of citizen immunity at time of occurrence of accidents and disasters. Based on information and statistics from the epidemiology department of the fire department of the city of Tehran, every day 70 to 85 incidents are reported to the fire department in Tehran, where the fire department immediately upon notification of the event goes to the location and rescues victims. Based on this statistics, and since today's organizational world which can accurately be called "world of disasters" is a place full of evident problems and complexities that their prediction with logical precision is confounded, to overcome these indeterminate conditions, the only way faced by firemen and rescuers is enablement of the organization and personnel by way of knowledge and skill. A knowledge and skill that rapidly becomes out dated (Parkinson & Astom J, 2000; p7). Knowledge and skill needed by firemen are called topics of fire services. Topic of fire services includes contents in the context of fire services, assistance and rescue, self-help and help of others and the method of extinguishing fire in the shortest time possible namely the golden time for saving human lives. It is presented in two forms of practical and theoretical. In the practical section, the volunteer is trained practically at the stations. Yet, in the theoretical portion, teaching is through books and demonstration of educational videos (Bakhshi 2012; 12). In Iran, fire service training is official and stationed so the level of knowledge and awareness of employees of this organization is promoted to an ideal level. By promotion of level of awareness of personnel, it is referred to an ideal knowledge that an individual or organization needs to acquire in order to perform its relevant duties and responsibilities at a desired and acceptable level and as much as possible context for individual growth and advancement is provided for (Fathi, 1992).

Encountering disasters: includes necessary and sufficient preparation for facing possible dangers in daily human life for any reason and in any time and place. Encountering disasters are divided into two ways of evident and hidden. In facing danger evidently, preparation is practical. Yet, in hidden preparation, teaching is theoretical and for increasing level of awareness. In the theoretical portion, teaching is directed towards extensive preparation for general incidents such as flood, earthquake and fire so human catastrophe can be prevented (Abtahi, 1989; 23-24).

Considering what has been mentioned and that one of the branches of fire services that has recently started operating is volunteer women fire persons who with acceptance of conditions are trained at fire stations with the purpose of having effective role at times of disaster and general incidents that can occur at residential location of people and puts them at access to probable dangers and containing the fire and decreasing casualty. Therefore, the purpose of this research was evaluation of the effect of fire department training for volunteers on promotion of awareness level of women mobilization officers at district 15 in confrontation with disasters. On this line, the following questions are introduced:

- What is the level of effect of fire department training (teaching based on experience) on mobilization women forces by two methods of practical along with teaching help tools with theoretical and direct and video demonstration in district 10 of Tehran?
- What is the awareness level of mobilization women forces in encountering disasters before and after training?
- Is there meaningful difference between education of participants before and after teaching? What is the effect of level of education on learning by the two practical and theoretical methods?

2. Method and Instruments

This study was a field study, with methods of library research and action investigation. Research population included fire department voluntary mobilization officers (120 individuals). Considering the small population size, the entire population was selected as sample and was randomly divided into two groups of 60 individuals. For data collection, researcher formulated test was used. This test included 34 items scored based on a 5-degree Likert scale. Reliability for the questionnaire was 0/80 and its validity has been confirmed by a group of fire department professors and trainers. Data collected was analyzed by SPSS software using descriptive statistics (diagrams and distribution tables) and inferential statistics (independent groups' t-test for evaluation of effect of theoretical and practical teaching and one way analysis of variance).

3. Results

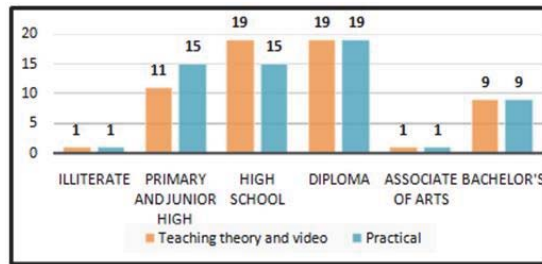


Figure 1: Participant education level

Table 1: Education level of participants in the test differentiated by theory and practical

	Theoretical training	Practical training
Illiterate	1	1
Primary and junior high school	11	15
High school	19	15
Diploma	19	19
Associates of Arts	1	1
Bachelor's	9	9
Total	60	60

In Table 1, descriptive data of participants regarding education level has been shown. As Figure 1 and Table 1 show, in theoretical teaching one person was illiterate, 11 individuals were in primary and junior high school, 19 individuals were in high school, 19 individuals had diploma and one person had Associate of Arts degree and 9 Bachelor's degrees.

Additionally, in practical teaching there was one person who was illiterate, 15 were in primary and junior high

school, 15 in high school, 19 had diploma, 1 person had Associate of Arts and 9 individuals had Bachelor degree.

In this section, we will evaluate the research questions:

- What is the level of effect of fire department training (teaching based on experience) on mobilization women forces by two methods of practical along with teaching help tools with theoretical and direct and video demonstration in district 10 of Tehran?

Table 2: Paired t-test for correct test answers before and after teaching

	Paired difference					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Correct test question answers before and after theoretical training	-18.324	11.443	1.963	-22.316	-14.331	-9.337	33	.000

Considering the table and that significance level is less than 5 percent, the assumption of equality of means can be rejected. In other words, it can be stated that training has been effective to some extent, because meaningful difference between the scores of individuals before and after teaching overall in all chapters of theoretical teaching exists.

Table 3: Paired t-test for correct response to questions before and after practical teaching

	Paired difference					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Correct test question answers before and after practical training	-28.176	11.159	1.914	-32.070	-24.283	-14.724	33	.000

Considering Table 3 and that the significant level is less than 5 percent, the assumption of equality of means can be rejected. In other words, it can be stated that teaching has been effective to some extent, because meaningful difference between scores of individuals before and after teaching overall in all chapters of the practical portion exists.

- What is the awareness level of mobilization women forces in encountering disasters before and after training?

Table 4: Independent t-test for all questions before and after teaching

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Before teaching	Equal variances assumed	.009	.925	.867	66	.389	2.559	2.952	-3.334	8.452
	Equal variances not assumed			.867	65.868	.389	2.559	2.952	-3.334	8.452
After teaching	Equal variances assumed	3.603	.062	-5.353	66	.000	-7.294	1.363	-10.015	-4.573
	Equal variances not assumed			-5.353	54.294	.000	-7.294	1.363	-10.026	-4.562

Considering the research variables and significance level less than 5 percent and the value for t with referral to the table below, overall it can be stated that meaningful difference does not exist between practical and theoretical teaching before training and after training difference exists between them such that practical teaching with mean of 51.62 person correct response out of 60 individuals is more effective compared to theoretical teaching with mean of 44.32 persons.

Table 5: Paired t-test for correct responses to questions before and after teaching

	Paired difference					t	Df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Correct responses to questions before and after teaching	-23.25000	6.27314	1.07583	-25.43880	-21.06120	-21.611	33	.000

Considering Table 5 and significance level of less than 5 percent, the assumption of equality of means can be rejected. In other words, it can be stated that teaching has been effective to some extent, because meaningful difference between scores of individuals before and after teaching overall in all chapters exists.

- Is there meaningful difference between education of participants before and after teaching? What is the effect of level of education on learning by the two practical and theoretical methods?

Table 6: Relationship between education level of responders and response to questions before theoretical teaching

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8665.645	5	1733.129	.613	.690
Within Groups	152587.205	54	2825.689		
Total	161252.850	59			

Considering the above table, the results of one sided ANOVA shows that the observed F for research variables is not significant at P=0/05 level. In other words, meaningful difference does not exist between various education levels in responding to the questions before theoretical teaching.

Table 7: Relationship between education of respondents and responses to questions after theoretical teaching

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	325.382	5	65.076	2.636	.033
Within Groups	1333.201	54	24.689		
Total	1658.583	59			

Considering the table above, results of one way ANOVA shows that the observed F for the research variables is meaningful at P=0/05 level. In other words, meaningful difference exists between various education levels in responding to questions after theoretical teaching.

Table 8: Relationship between education level of respondents and response to questions before practical teaching

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	479.414	5	95.883	6.924	.000
Within Groups	747.836	54	13.849		
Total	1227.250	59			

Considering the above table, the results of one way ANOVA shows that the observed F for research variables is significant at P=0/05 level. In other words, meaningful difference exists between various education levels in responding to the questions before practical teaching.

Table 9: Relationship between education level of respondents and responses to questions after the practical teaching

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	133.378	5	26.676	1.195	.324
Within Groups	1205.022	54	22.315		
Total	1338.400	59			

Considering the above table, the results of one sided ANOVA shows that the observed F for research variables is not significant at P=0/05 level. In other words, meaningful difference does not exist between various education levels in responding to the questions after practical teaching.

Table 10: Relationship between education level of respondents and responses to questions before teaching overall

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5593.471	6	932.245	.663	.680
Within Groups	158903.829	113	1406.229		
Total	164497.300	119			

Considering the above table, the results of one sided ANOVA shows that the observed F for research variables is not significant at P=0/05 level. In other words, meaningful difference does not exist between various education levels in responding to the questions before practical and theoretical teaching.

Table 11: Relationship between education level of respondents and responses to questions after teaching overall

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	262.832	6	43.805	1.693	.129
Within Groups	2924.159	113	25.878		
Total	3186.992	119			

Considering the above table, the results of one sided ANOVA shows that the observed F for research variables is not significant at P=0/05 level. In other words, meaningful difference does not exist between various education levels in responding to the questions after practical and theoretical teaching.

4. Discussion and Conclusion

Results of the research in evaluating the initial question stating that "is teaching fire department topics (teaching based on experience) effective on women mobilization officers by the two methods of practical along with para educational tools with theoretical and direct in the form of theory and video demonstration in district 15 of Tehran?" showed that with regards to teaching in theory and demonstration of video, and also in the practical teaching portion, training has been effective to some extent. The reason is that meaningful difference existed between individuals' scores before and after training overall. In general, difference does not exist between practical and theoretical (with video demonstration) teaching groups before training and difference exists between practical and theoretical teaching groups after training such that the practical teaching group with mean of 51/62 individuals with correct responses out of 60 had more effect compared to theoretical teaching with video which had a mean of 44/32 persons. Thus education overall was effective on level of increase in awareness and correct response to questions and between theoretical and practical teaching, practical training group showed better response to questions and more individuals with practical teaching responded correctly to the questions.

In explaining the findings, it can be stated that in a two way relation between the organization and employees in life, teaching is a critical matter (Bazdar, 2002). In fact, complexity of occupations, accelerated technical evolutions of the recent quarter of the century, new occupations that did not exist fifty years ago, multiple change in professional activity in a working life time, rapid changes in human knowledge all signify the necessity for training and particularly the necessity and importance of training in fire departments. The later will help efficiency and increased awareness levels in forces (taken from Shah Alou, 2011).

Additionally, in explaining better responsiveness of practical teaching, it can be stated that practical teaching helps individuals experience the real atmosphere in a way and acquire the necessary skill for confronting real incidents.

On the one hand, in evaluating the second research question stating that "What is the level of effectiveness on awareness level of women mobilization forces in confrontation with incidents before and after training?" results of the research considering that the significance level is less than 5 percent show that assumption of equality of means can be rejected. In other words, it can be stated that training has been to some extent effective, because meaningful difference exists between individuals' scores before and after training. In this regard, it can be noted that Abtahi (1989: 23-24)

considers confrontation with incidents as necessary and sufficient preparedness for encountering with probable dangers in daily human life for any reason, any time and place that it may occur. Therefore, for creation of this preparedness in individuals, there is need for continuous and persistent training. Trainings leads to desirable changes in an individual or individuals of an organization with regards to knowledge and skill or behavior and an individual or individuals can perform their own duties and responsibilities at a desirable and acceptable level in accord with training standards (Askaner, 2005). Therefore, this training in turn leads to increased level of knowledge and awareness in individuals as was shown in the results of this research.

Additionally, considering the test implemented, meaningful difference did not exist between education level of participants with regards to responding to the questions before theoretical and video teaching. Additionally, there was meaningful difference in education level in correct response to questions after training theoretically. In this regard, practical teaching group also considering the tests implemented did not show meaningful difference in education level in correct response to questions after training but did before training. Overall, meaningful difference does not exist in education level in correct response to questions before training in the two practical and theoretical with video groups overall. Also, meaningful difference did not exist in education level in correct responding to questions after training by both the practical and theoretical teaching methods overall but meaningful difference exists in the theoretical and video demonstration group. These results might be due to specialty characteristic of fire department topics and lack of awareness of people of them.

References

- Abtahi, Seyed Hossein (1994). Teaching and improving human resources. Tehran: Institute for Study and Planning Education and Expansion Firm Publications.
- Bakhshi, Mohammad (2011). Teaching volunteers fire services. Tehran: Shahr Publications.
- Bazdar, Khalil (2002). Educational needs analysis of high schools in the province of Ilam. MS Dissertation, Educational Management, Ilam Province, University of Shahid Beheshti, Tehran.
- Fathi Vajarghah, Kourosh (1994). Familiarity with teaching during service for employees. Tehran: General Office of in Service Training, Tehran.
- Parkinson, Stom J (1997). Teaching skills (Translation: Iranzad and Parizi). Tehran: Institute of Research and Teaching, Power Department Based.
- Shah Alou, Amir Yaser (2011). Necessity for fire department training and its structure. Tehran.