

# Study the Impact of Employing Action Research on Middle School Teachers' Performance

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## Abstract

This research aims to study the impact of employing action research on middle school teachers' performance in district 3 education of Tehran in 2015 educational year. With regard to its aim, this study can be considered as an applied research and regarding the data collection method, it is a descriptive(ex post facto) research. The population of this study includes middle school teachers working in district 3 education of Tehran in 1394 educational year. A study sample of 100 individuals was selected through random stratified sampling method and divided into two groups of 50 teachers. Research tool was the organizational performance questionnaire by Hersey and Goldsmith (2003). This questionnaire was set up as a 5-point scale questionnaire and includes seven sub-scales(ability, clarity, assistance, encouragement, evaluation, validity and environment). Validity of instrument was determined by Goldsmith through content method and in this research content validity was used as well. In addition, reliability factor of the questionnaire is 87% which is calculated by Cronbach's alpha. Data collected from questionnaires was analyzed using independent T-tests and Manova in two different levels of descriptive and Inferential statistics. The results of the current research indicate that in general deploying action research affects performance of middle school teachers in district 3 education of Tehran. In secondary hypotheses using action research is effective considering ability, clarity, assistance, encouragement, evaluation, validity and environment while it has no effect on examining teachers' performance. Besides, analyzing lateral findings of multivariate analysis of variance claims that in sample group's view, there is no significant difference between teacher's performance divided by years of experience or levels of education.

**Keywords:** performance evaluation, organizational performance, action research

## 1. Introduction

Since education is concerned with man, so it is one of the most important areas in which research is necessary. Therefore, to enhance education and effectiveness of training, the skill and capability needed for teachers should be strengthened, that it obligate teachers to acquire scientific insight and do research. Education needs its special skills, that its main core should be transformation in the classroom and the learning process. Teachers should use research action method to solve their classroom problems, while enjoy all research methods (.Gall et.al., translation by Nasr, 2004:27).

Today, mankind is well understood that transformation in education is a pre-requisite to answer scientific, industrial, social, and moral challenges and to attain stable development. According to educational experts and Scientifics, education structure has more priority and importance than of all other social institutions and structures, and priority within this structure should be given to teachers, since teacher is the main worker of education, and fulfillment of noble objectives of education is achieved by teachers. Authors of " World on the eve of the twenty-first century", when proceed to the topic of eliminating role of education say sympathetically: "The most important condition to prevent disaster that lie ahead is human education" (Rahmani, 2004:6).

According to these cases we can say, to attain stable development and to raise problems and obstacles faced by society, we must attach great importance to the education. To educate and train skilled and expert people ,we

need to have committed teachers with enough skills and motivations. Research action can be accounted as a method through which teachers introduce and solve obstacles and problems related to classroom, and with the development of the project among them we hope to have effective and desirable learning and teaching process. Applying research action method can be useful for both teachers to identify problem solution which the class is involved with, and for students from the viewpoint of enjoying of scholar and motivated teachers.

Training human force in organizations was not scientifically and orderly considered until the scientific management school came into existence in the late nineteenth century and early twentieth century. With education globalization and explosive growth of information technology, communication, and rapid changes in knowledge and skills, effort to this issue is intensified. During this period, human resources are recognized as the most important factor of organizational development, and education is considered as the best means of responding to this need. These kinds of education, which are referred to as in-service training, was controller of systematic effort which its main objective was to harmonize future interests and needs of people with goals and needs of organization ( in most activities that were expected of them ) , therefore improved performance of individuals in workplace will be provided through continuous acquisition of knowledge, skills, rules, and desired viewpoints (Orangi,2011:95).

Scholar teacher is not merely an educational worker or employee. He/ she is a thinker who tries to apply these knowledge given to special conditions of his/her class and school through enjoying of scientific findings of the world around, and makes needed changes and transformation if it is necessary. Raising problems related to the class and improving education and training are not scholar teacher's goals. He/ she tries to get students achieve their maximum talents ( Ghasemi Pouya, 2004:39).

Applying research action skill on teachers' performance, which with its outset as scholar teacher plan in 1996 in Iran is spreading, depends on many factors, that through acknowledging of these factors we can more effectively act for further expansion and dissemination of using research in act among teachers. Of course, at the beginning, this plan has been faced with more problems than now. In this plan, it is tried to identify important factors arising from the effect of using research action skill on teachers' performance, then through learning from them we take an action to develop the plan and improve teachers' performance.

At present, the most important concerns of those involved in the project is the more usage of research action by teachers to solve their class problems. Meanwhile, the factors that are effective and are considered by scholars and can be referred to are :organizational factors, financial facilities, educational factors, and cultural, social factors, and individual features. Given to what mentioned above, the research issue is investigating the effect of using research action skill on teachers' performance of high school of region 3 in Tehran.

## **2. Research Methodology**

This is an applicable research, and is kind of description ( casual-comparative) one. The statistical universe of the recent study includes all high school teachers at region 3 who were working during academic years of 2015-2016, that according to official figures are estimated 860 teachers. A sample of 100 subjects (50 teachers using research action in teaching and learning activities in some way, and 50 teachers who don't). This sample was selected through random sampling. 140 questionnaires were delivered between subjects, and finally 100 completed questionnaires (50 questionnaires for each group) were finally analyzed.

### *2.1 Data Collection Tool*

In the recent study, an inventory for data collection is selected through supervisor professor and scholar's experiences and valid sources. In the recent questionnaire, with asking question that whether you use research action activities or not?, the sample divided in two control and experience groups.

The used questionnaire, Hersey and Goldsmith(2003) questionnaire of organizational performance , has 42 items, and measures seven capability components ( 1-2-3-20 items), clarity (94-5-6-7-8-38-39 items), help (9-11-12-13-15 items), encourager (16-18-19-21-22-25), assessment (23-30-31-32-33-34-35-36-37 items), validity ( 17-24-26-27-28-29 items), and circumference (10-14-40-41-42 items ).

The following tools were used to measure the content validity of the questionnaire:

- 1- Preparing the questionnaire based on theoretical model and research background : the questionnaire was prepared under guidance of supervisor professor.
- 2- The supervisor professor gave his/her expertise specialized comments based on exact study, and his/her comments were applied.
- 3- Comments of other experts and scholars who had some studies in the field of research were used, that

their comments were also investigated and applied by using the supervisor professor guidance.

The alpha chronbach method was used to estimate the questionnaire validity. Actually, using the alpha chronbach formula is recommended for those questionnaires having multiple choices answers. In the recent study, the reliability coefficient which was calculated by alpha chronbach coefficient was determined 7%. Given that alpha chronbach varies between 0 to 10, and the closer is the coefficient to 1, the more appropriate it is, so we can say that the mentioned questionnaire has enough validity.

## 2.2 Research Findings

### 2.2.1 Descriptive Data of Research Variables

Table 1. Descriptive statistical indexes for research variables in experiment group (n=100)

Variable	Control group		Experiment group	
	Mean	St.deviation	Mean	St.deviation
Ability	15.8000	3.00340	17.7200	3.63447
Clarity	25.5000	4.84136	28.6200	3.55648
Help	16.4400	3.68760	19.5600	5.15934
Encourager	19.8400	3.48384	22.5600	4.45458
Assessment	31.2000	5.59883	30.8600	6.14787
Validity	18.9000	3.66032	18.8400	3.89269
Circumference	15.7000	2.51729	17.9000	3.89269
Total	143.3800	17.26846	156.0600	19.95036

The above table show that, the mean scores of organizational performance of experiment group is measured 156.06 with 19.95 standard deviation. According to Hersey and Goldsmith (2003) inventory scoring, we can say that , the performance of the group is medium to high(if scores are above 126, the organizational performance level will be medium to high level).

The above table also shows that, the mean scores of organizational performance of control group is measured 143.38 with 19.95 standard deviation. According to Hersey and Goldsmith (2003) inventory scoring, we can say that, the performance of the group is medium to high level (if scores are higher than 126, the organizational performance level will be medium to high level).

### 2.2.2 Investigating Normality of Scores Distribution

To check scores normality, kolmograv- Smirnov tests, report of a distribution index values, skew and kurtosis,visual depiction of chart scores, and Shapiro- Webleck test were used. Results of the Shapiro-Webleck test are reported in table 2. According to the results of the test, since values obtained for the tests in a group at 0.05 level is not significant, so, the provision of equality of intro-groups variances and data normality is established.

Table 2. Investigating normality of research variables data distribution using Shaipro- Webleck test

Variable	Group	Shapiro and webleck		
		Value	Freedom-degree	Significance level
Ability	Experiment	.815	50	.226
	Control	.900	50	.207
clarity	Experiment	.947	50	.116
	Control	.932	50	.161
Help	Experiment	.818	50	.170
	Control	.899	50	.224
Encourager	Experiment	.958	50	.120
	Control	.964	50	.150
Assessment	Experiment	.966	50	.095
	Control	.968	50	.095
Validity	Experiment	.955	50	.117
	Control	.959	50	.118
Circumference	Experiment	.918	50	.152

Total performance	Control	.923	50	.187
	Experiment	.975	50	.088
	Control	.922	50	.185

### 2.2.3 Inference Analysis

Table3 . Independent t-test results in checking research hypothesizes

Variable	Test value	Levin test		Df	Dependent t-test
		Significance level	Test value		Significance level
Ability	.008	.929	4.862	98	.001
Clarity	.121	.227	4.673	98	.0001
Help	.541	.464	3.479	98	.001
Encourager	1.358	.247	3.479	98	.001
Assessment	1.092	.299	-.289	98	.773
Validity	.005	.945	-.079	98	.937
Circumference	1.512	.231	3.356	98	.001
Total	2.542	.114	3.398	98	.001

The assumption of scores variance homogeneity of two groups was checked by using Levin test. Given that Levin F value at  $\alpha = 0.05$  was not significant, the homogeneity hypothesis of data variance and regression slope is established.

Given to the results of the above table, since t-value in performance variable (total score) with 3.398 value at 0.05 level is significant ( $p=0.001$ ), so null hypothesis (no difference between two independent mean) will be disproved and research hypothesis (difference between two independent mean) will be established.

### 3. Results and Discussion

According to the results, it is presumed that applying research action influence on high school teachers' performance at region 3 of Tehran city, so the research hypothesis was established.

Yuan and Lee (2014), state that, while research action is considered as a strong and effective method for professional development and promotion of teachers, different situational challenges may arise during this process. Teachers can cope with these challenges through getting help of external facilitators (coaches out of situation). Their findings also showed that, by the framework presented by university scholars, teachers change their definitions about research and adapt themselves to the situational barriers in their research action that it led to learning and occupational development and promotion. The recent study ends with implications for the effects that research action can have to increase teachers' occupational development and promotion.

Hadighi (2006) in a study in this field showed that, from the perspective of the teachers, teaching research action they have improved quality of solving educational problems through teaching it.

### 4. Secondar Hypothesises

In studying the first research hypothesis, using research action skill had effect, in terms of teachers' performance, so the hypothesis confirmed.

In line with the results, Yuan and Lee (2014) study showed that developing teachers' ability and efficiency, and teaching by tablet technology through research action learning process guarantee that the innovative research action learning process is an effective program class for improving and promoting teachers' occupation at national level. A study by Piri and Salman Ogheli Khayavi (2011) in this regard showed that, there is a significant difference between training and educating performance of teachers participating in research action and others who didn't, and those teachers who have participated in had proper performance.

In explaining results of the research hypothesis we may state that, teachers who apply research action skill, are more capable in doing their duties, because they plan on conditions ahead of them with more knowledge and skill, hence do their duties more successfully.

In investigating the second hypothesis, applying research action skill affects on teachers' performance in terms of clarity. Results of the study by Sarkar Arani (2007) showed that, degree of applying research action skills enable teachers, as a researcher in class, to understand different needs of students in relation with their educational successes, getting greater understanding toward relations between themselves and students and what is happening in class, evaluating learning and teaching process, learning more about students and their interests.

In explaining the results, it should be noted that, teacher who apply research action skill are superior to others because of better perception or imagination of their role, and having a more complete understanding of the problem and how to decrease or raise it, and having goals and aims which are more clear and recognizing their priorities.

In investigating the third hypothesis, Bruglia and Schulle (1996) suggest that, teachers who have applied research action skills have stated that, research action is as a way in their lives path. Students are committed in their class performance and their experiences, and there have been advances in learning process. Instructors as teachers and children as students are in progress in their performance, and occupational development is achieved, and they have defined research action as a progressive and protective path for making change.

Therefore, in explaining obtained results, we may state that, those teachers who have applied research action are more effective than those teachers who haven't applied this skill due to organizational support given to them. Since, only under such conditions it is possible that teachers be ready to enhance their responsibilities and to improve their occupation through research, and can progress their research activities with the present challenges, because research activities by teachers is a model for their occupational development and promotion, that invites teachers to the group of educational decision makers and politicians, and respects them.

In studying the fourth hypothesis, we can conclude that, applying research action skill affects on teachers' performance in terms of encourager variable, so the hypothesis was established.

Atashza Shorideh, and Parkhideh (2010) stated that, research action is a participatory and periodic process to make change in workplace, which collects evidences, and through participation of those who have problem it tries to find solutions to fix their problems, then applies and evaluates them. In participatory research action, practical work responsibility is divided between participants, and this lead to increase in participants interests.

Diling (1996), in a study to investigate degree of research with managers and teachers colleagues at Ontario concluded that, there is a wave of protection in Ontario and in the world for teachers' professional learning and respecting them and their studies. Denato (2003) in a study showed that, teachers, by applying research action, accept leadership roles and act contrary to traditional roles. The leadership role of teachers arises from the collaboration and trying to understand present condition and making change, until progress is made in their educational performance.

In investigating the fifth hypothesis, it can be concluded that, applying research action skill, in terms of assessment, doesn't influence on teachers' performance. Hagh parast (2001) in a study in line with the research in fifth hypothesis showed that, there is a significant relation between research action and promoting knowledge and learning to solve educational problems, there is not a significant relation between research action and students cooperation in solving educational problems, the relation between research action and teachers cooperation in solving educational problems is not significant, there is not a significant relation between research action and applying effective teaching methods to solve educational problems, and the relation between research action and using educational tools in teaching-learning process is significant. His finding is inconsistent with Hadighi (2006) that in teachers' viewpoint, assessment has increased by using research action and applying proper evaluation methods.

In explaining obtained results, we can state that, those teachers who apply research action have higher assessment quality than teachers who don't apply the skill, because they are more aware of their performances, and however, they have measured their performance effectiveness due to research action training.

In explaining the sixth hypothesis, it can conclude that, applying research action, in terms of validity, doesn't affect on teachers performance. According to Amirhosseini studies (2005), when teachers are researchers, the distance between theory and practice, which has always been criticized by experts and practitioners, will disappear, a correlation between scientific and academic opinions and classroom will create, teachers' self-esteem will get boost, local issues and problems will be paid enough attention, sense of belonging and participation will strengthen among them, their work validity will increase and their creativities will expand.

In studying the seventh hypothesis, we can conclude that, applying research action skill, in terms of

circumference, affects on teachers' performance , and the research hypothesis is established.

Nelen and Paton (2007) showed that, research action is a valuable tool to access environment, people, and knowledge that are inaccessible by other means, and the powerful force of research action in classes should be shown. Diling(1996) in a study on investigating degree of research with teachers and managers colleagues in Ontario concluded that, there is a wave of protection in Ontario and the world for teachers' professional learning and respecting them and their studies.

In explaining results of the fifth study, we can state that, although circumference affects on performance of all teachers, but those teachers who apply research action skill, through its enforcing process, have greater control over negative effect of circumference and try to absorb positive effect of the circumference , to perform their objectives in a better environment. For this, they are different from those teachers who don't have such a skill.

Given to the effect of applying research action skill in terms of ability on teachers' performance of region 3 in Tehran, and considering that our educational society needs teachers who are naturally researcher, it is suggested that, during in-service training teachers should be taught that ,they must control teaching and learning process in a research based, and they should use their rich experiences in designing and assembling plan and writing book and the way of assessment.

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