

Examining and Determining the Extent Effect of the Research Methods Used by Teachers on their Educational Performance

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Abstract

This research is done to examine and determine the impact of the research methods used by teachers in their educational performance. The Statistical Society is all of the researcher teachers in the Tehran city Educational organization whose researches have been chosen by the Organization and relative departments. The tool used in this study is researcher made questionnaire. The research contains a main hypothesis and six minor hypotheses. Independent T-test was used to test the research hypothesis. The entire hypothesis is confirmed based on the results. Accordingly, the research methods used by teachers has been effective on increasing student participation in the learning process, improving relations between teachers and students, Identifying and resolving problems that disrupt learning, determining the appropriate method of teaching, using different tools and different types of learning opportunities and learning process, and improving relations between students, teachers and parents. Confirmed all the hypotheses of the study it can be concluded that the research method used by teachers was effective on their educational performance.

Keywords: research methods, teachers, educational performance, Tehran Educational organization.

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Introduction

Nowadays the meaning of education is different from the past. Rapid developments in science and providing new technologies have made inevitable the necessity for revolution in educational activities process. Educational systems are committed to train the personnel who are able to understand the complex world and manage it creatively. Educating Creative and Thoughtful people require particular methods. The methods are interwoven with teachers and their professional performance. So one of the most important to meet the new requirements is development of teachers and trying to make it better.

Specialist, dynamic, highly motivated and interested teachers, play an important role in the achievement of educational goals. One of the methods that can help to promote the role-playing is more teacher involvement in the entire educational process. Researching is one of the ways making possible teachers involvement. Research is a tool that may enable teachers to contribute to even higher levels of decision-making. Mehrmohammadi, (1379) in new definition of Educational Research, classifies educational Research at three levels students, teachers and university levels. The second level of classification, named "the teachers level ". According to this view, the complex nature of the teaching-learning process in such a way that it cannot be expected a set of scientific findings concerning the relationship between the variables used as the sole support. As a result, because teachers will be able to carry out their professional tasks efficiently, have to do research and engage in the acquisition of new knowledge and reputable professionals. The teacher can assume the serious and complicated educational duties only if he has the courage and audacity to deviate from the well- known guidelines and testing innovative methods, In this case, we can mention him as a researching teacher.

Statement of the Problem

Teacher research is a systematic research with the goal of helping teachers better understand to improve teaching and learning activities in the classroom. (Camp bell, 2004) Teacher study significantly contribute to the learning experiences of teachers, It helps them to gain new knowledge about the research, education, their students and themselves (Dixie, 2002)

Teacher- researcher in a systematic effort is seeking to develop a complete, accurate and comprehensive learning and teaching framework (Moher and Marian, 2004, p 24). Nofke & Zeichner (1382), offer the following points about the achievements of teachers:

It reshapes teachers' definition about their skills and professional roles and provokes their sense of competence and confidence in their tasks, Increase their awareness about reflecting and responding. It will change their values and Improves the agreement between theory and practice (quoting Rumiani, p 38). Teacher research process, seeking to develop concepts and intellectual capacity to make theoretical interpretations of the data. Looking closely at teaching methods leads to develop common ideas and reliable methods (Lali, 1991). Teacher research Significantly affect teachers' learning experiences. Teacher researching makes possible Implementation and analysis of the teaching-learning process in a structured, systematic methodology for teacher. This defined structure by warning and more

systematizing, helps teachers to gather and analyze data and reflect on the results (Brown, 2002). A study done by the teacher researcher known as action research or research in action.

General hypothesis

Research methods used by teachers have been effective in their teaching performance

Partial hypothesizes

- 1- Research methods used by teachers have effective on increasing participation rate of students in learning process.
- 2- Research methods used by teachers have been effective in improving relations between them and students
- 3- Research methods used by teachers have been effective in recognizing disruptive problems of education and solve them
- 4- Research methods used by teachers has have effective in identifying appropriate methods of teaching
- 5- Research methods used by teachers have been effective in utilizing a variety of learning opportunities and numerous different tools and instruments in training process
- 6- Research methods used by teachers have been effective in improving relations between them and students' parents

Method:

This study is descriptive- survey type. Target population, is all researchers' teacher of education department in provinces of Tehran, which their research has been chosen in evaluating organizations and subordinate offices. The number of teachers is 976 people that have been scattered in 27 districts of city of Tehran province. The used sampling method is multi-stage cluster sampling procedure. The sample size have selected equal to 275 individuals by using preliminary studies and considering probable accuracy, estimated variance, and confidence coefficient and based on Cochran formula. Data collection instrument in this research, is a researcher-made questionnaire which has six sections. In order to assessing basic components of study, according to this that each component contains a number of items, we use five degree Likert scale. Validity of questionnaire have been provided by citing esteemed faculty members' opinion. Reliability of questionnaire have obtained equal to 94% after test implementation among the sample of 30 individuals from the target population with Cronbach Alpha method and by using spss software. In conclusion we can say that questionnaire of this study have adequate validity and reliability. In order to analyze the data obtained from research, we use descriptive and inferential statistical indices in spss software. In level of descriptive statistics, frequency, percentage, mean and standard deviation were used in order to describe reality. In inferential statistics level, T-one sample is used. Assuming average for the population, is the average range of 3. In fact, T-test have specified that observed difference between two sample mean due to arisen chance factors or observed difference is represent real difference between the two communities.

Research findings

In first hypothesis, participation of students in learning process is evaluated. For this purpose, items 1 to 7 of questionnaire has been allocated to this hypothesis. This hypothesis was confirmed by using one sample T-test with 274 degrees of freedom and a confidence level of 65%.

Table 1: one-sample T-test for hypothesis number one

Significance Level	Confidence level	df	T	Standard deviation	Experimental mean	Hypothetical mean	number	Variable
%000	%95	274	19/54	0/37	29/08	21	275	Participation of students In learning .process

According to results of Table 1, the experimental mean is obtained 29.08. As result, this hypothesis is confirm with difference mean of 8.08 due to hypothetical average. From the overall of questions findings related to this hypothesis it can be concluded that using research methods in these cases are effective in this order: Increasing students' sense of responsibility, encourage students to think, participation of students in variety of individual and group educational activities, participation of students in curriculum classroom activities, participation of students in academic performance evaluation, participation of students in analyzing curriculum's content, and participation of students in social critique and evaluation.

Examined variable in second hypothesis is the relationship between teacher and student which is measured by items 0 to 16 of the questionnaire. This hypothesis was confirmed by using one sample T-test with 274 degrees of freedom and confidence level of 65%.

Table 2: One-sample T-test for hypothesis 2

Significance Level	Confidence level	df	T	Standard deviation	Experimental mean	Hypothetical mean	number	Variable
%000	%95	274	25.60	/16	39.51	27	275	Relation between teacher and .students

Based on results in Table 2, average is obtained about 39.51. This hypothesis is confirmed with an average difference of 11.51 with respect to hypothetical mean. According to this hypothesis, the research methods used by teachers have been effective in improving relations between them and the students.

From the overall of questions' findings related to this hypothesis, means questions 0 to 16 of questionnaire, it can be concluded from available 6 variables that using research methods in these cases are effective in this order: utilizing students' opinion and encourage them to commenting, creating an atmosphere of mutual trust between students and teachers, increasing mutual respect's sense between students and teachers, teachers utilization to increase human communication between teachers and students, creating context in which students feel secure, talent identification in teachers, more attention to curiosity sense of student, independence and self-esteem of students, awareness of students' different learning styles, psychological, emotional and family backgrounds' recognition of students by teachers.

Variable evaluated in third hypothesis is recognizing disruptive problems of education and solve them which are measured by questions 17 to 22 of questionnaire. This hypothesis have been confirmed by using one sample T-test with 274 degrees and 95% level.

Table 3: One-sample T-test for hypothesis 3

Significance Level	Confidence level	df	T	Standard deviation	Experimental mean	Hypothetical mean	number	Variable
%000	%95	274	23	/16	27.79	21	275	Recognizing disruptive problems of education and solve them

Based on results in Table 3, average is obtained about 27.79. This hypothesis is confirm with average difference about 9.79. According to this hypothesis, the research methods used by teachers have been effective in recognizing disruptive problems of education and solve them.

From the overall of questions' findings related to this hypothesis, means questions 17 to 22 of questionnaire, it can be concluded from available 6 variables that using research methods in these cases are effective in this order: identifying physical factors affecting on increasing educational performance, such as poor lighting in classes, existence of educational tools and instruments, identifying the students' behavior disorders and their causes, utilizing other's research and experimental findings to solve educational problems, consultations with guiders and educational supervisors to resolve training problems and issues, identifying students who have physical problems and help them to identifying disruptive non-educational factors in education like factors such as dropouts' friends, lack of parents' motivation to continue students' studying. Examined variable in fourth hypothesis is identifying appropriate educational method and is measured by questions 23 to 26 of the questionnaire. This hypothesis have been confirmed by using one sample T-test with 274 degrees and 95% level.

Table 4: One-sample T-test for hypothesis number 4

Significance Level	Confidence level	df	T	Standard deviation	Experimental mean	Hypothetical mean	number	Variable
%000	%95	274	7.77	0.35	28.28	21	275	Identifying appropriate educational method

Based on results in Table 4, average is obtained about 27.79. As result, this hypothesis is confirm with average difference of 9.79. According to this hypothesis, the research methods used by teachers have been effective in Identifying appropriate educational method.

From the overall of questions' findings related to this hypothesis, means questions 23 to 29 of questionnaire, it can be concluded from available 7 variables that using research methods in these cases are effective in this order: Awareness factors of pattern types and teaching methods and manner to use them, using appropriate methods according to teaching and learning circumstances; familiarity with issues and new material in their discipline context; create new teaching topics' relationship with topics that have been taught; using methods that lead to understanding, creativity and innovation in students, integration of social and cultural issues with curriculum content, using cyberspace and IT in order to improve education.

Examined variable in fifth hypothesis is utilizing a variety of learning opportunities and numerous different tools and instruments in educational process which is measured by questions 30 to 38 of the questionnaire. This hypothesis have been confirmed by using one sample T-test with 275 degree of freedom and 95% confidence level.

Table 5: One-sample T-test for hypothesis number 5

Significance Level	Confidence level	df	T	Standard deviation	Experimental mean	Hypothetical mean	number	Variable
%000	%95	274	6.89	0.64	32.92	27	275	utilizing a variety of learning opportunities and numerous different tools and instruments in educational process

Based on results in Table 5, average is obtained about 32.92. As result, average difference is confirm about 9.79. According to this hypothesis, the research methods used by teachers have been effective in utilizing a variety of learning opportunities and numerous different tools and instruments in educational process.

From the overall of questions' findings related to this hypothesis, means questions 30 to 38 of questionnaire, it can be concluded from available 9 variables that using research methods in these cases are effective in this order: factors of using books, journals, articles and resources except the textbooks, teaching methods of problem solving, planning question, information gathering, hypothesizing and finding solutions, creating a context in which students can demonstrate behaviors consistent with their knowledge, using varied and numerous method, techniques and tools for academic performance evaluation, using extra-curricular activities, using spaces except for classrooms and school atmosphere in order to increase students' motivation, holding various field trips, using educational software such as: educational films related to course subject, use of educational hardware: such as all types of computer, video and more.

Variable evaluated in sixth hypothesis is relations among teachers and students' parents which are measured by questions 39 to 45 of questionnaire. This hypothesis have been confirmed by using one sample T-test with 274 degrees and 95% level.

Table 6: One-sample T-test for hypothesis number 6

Significance Level	Confidence level	df	T	Standard deviation	Experimental mean	Hypothetical mean	number	Variable
%000	%95	274	24.9	0.1	28	21	275	Relations among teachers and students' parents

Based on results in Table 6, average is obtained about 28. As result, this hypothesis is confirm with 7 average difference. According to this hypothesis, the research methods used by teachers have been effective in improving relations among teachers and students' parents.

From the overall of questions' findings related to this hypothesis, means questions 39 to 45 of questionnaire, it can be concluded that using research methods in these cases are effective in this order: Factors promoting the sense of consultation and exchanging ideas between teachers and parents, controlling and evaluating programs and students assignments in collaboration with parents, encouraging parents to provide a variety of resources and tools for students, participation of parents in different school subjects and issues, acquisition of common recognition (teachers and parents) of interest, desire, needs and students' talents, using different viewpoints and perspectives' of parents and encouraging them to provide their views and perspectives and participating parents in teaching and learning of students.

Discussion and Conclusion

Regarding the obtained results of hypothesis test in this study it is specified that from the perspective of teachers with previous research experience, their used research methods have been effective in increasing participation rate of students in learning process, improving relations between teachers and students, recognizing disruptive problems of education and solve them, identify appropriate methods of teaching, utilizing a variety of learning opportunities and numerous different tools and instruments in learning process and improve relationships among students, teachers and parents.

According to confirmation of first hypothesis, it became clear that the research methods used by teachers have been effective on increasing participation rate of students in learning process. This effect in training process are as following: Increasing students' responsibilities sense, encouraging students to think, participation of students in various individuals and groups' educational activities, participation of students in classroom curriculum activities, participation of students in academic performance evaluation, participation of students in analyzing the content of the curriculum and participation of students in social critique and evaluation. Thus, this question's findings is consistent with research and results of Lee An (2006) and Adele (1989), but they are inconsistent with HAGHPARAST (1380) findings. Based on the findings of HAGHPARAST (1380) there isn't a significant relations between being inquiring of teacher and student participation in solving educational problems.

According to confirmation of second hypothesis, it became clear that the research methods used by teachers have been effective on improving relations between them and the students. This effect in improving relations between them and the students are as following: utilizing students' opinion and encourage them to commenting, creating an atmosphere of mutual trust between students and teachers, increasing mutual respect's sense between students and teachers, increasing human communication between teachers and students, creating context in which students feel secure, talent identification in teachers, more attention to curiosity sense of student, independence and self-esteem of students, awareness of students' different learning styles, psychological, emotional and family backgrounds' recognition of students by teachers. Thus, this question's findings is consistent with research results of Adele (1989), Lilly (1993), Brown (2002), Dixie (2002) and Lee An (2006), but they are inconsistent with HAGHPARAST (1380) findings. Based on the findings of HAGHPARAST (1380) there isn't a significant relations between being inquiring of teacher and improving relations between them and students.

According to confirmation of second hypothesis, it became clear that the research methods used by teachers have been effective in recognizing disruptive problems of education and solve them. This effect in recognizing disruptive problems of education and solve them are as following: identifying physical factors affecting on increasing educational performance, such as poor lighting in classes, existence of educational tools and instruments, identifying the students' behavior disorders and their causes, utilizing other's research and experimental findings to solve educational problems, consultations with guiders and educational supervisors to resolve training problems and issues, identifying students who have physical problems and help them to identifying disruptive non-educational factors in education like factors such as

dropouts' friends, lack of parents' motivation to continue students' studying. Thus, this question's findings is consistent with research results of HaghParast (1380), Adele (1989), Brown (2002).

According to confirmation of forth hypothesis, it became clear that the research methods used by teachers have been effective in identifying appropriate educational method. This effect in identifying appropriate educational method are as following: Awareness of pattern types and teaching methods and manner to use them, using appropriate methods according to teaching and learning circumstances; familiarity with issues and new material in their discipline context; create new teaching topics' relationship with topics that have been taught; using methods that lead to understanding, creativity and innovation in students, integration of social and cultural issues with curriculum content, using cyberspace and IT in order to improve education. Thus, this question's findings is consistent with research results of Karimi (1386), Boorely (1993), quotes from Rezaee Kamal Abadi (1384), Dixie (2002), Dixie and Duffi (2004) and Bardeen (2003) quotes from Rezaee Kamal Abadi (1384).

According to confirmation of fifth hypothesis, it became clear that the research methods used by teachers have been effective in utilizing a variety of learning opportunities and numerous different tools and instruments in educational process. This effect in utilizing a variety of learning opportunities and numerous different tools and instruments in educational process are as following: using books, journals, articles and resources except the textbooks, teaching from methods of problem solving (planning question, information gathering, hypothesizing and finding solutions), creating a context in which students can demonstrate behaviors consistent with their knowledge, using varied and numerous method, techniques and tools for academic performance evaluation, using extra-curricular activities, using spaces except for classrooms and school atmosphere in order to increase students' motivation, holding various field trips, using educational software such as: educational films related to course subject, using educational hardware: such as all types of computer, video and more. Thus, this question's findings is consistent with research results of HaghParast (1383), Laali (1991), Lilian (1993), Boorely (1993) quotes from Rezaee Kamal Abadi (1384), Brown (2002), Dixie and Duffi (2004) and Bardian (2003) quotes from Rezaee Kamal Abadi (1384) and Camp Bell (2004).

According to confirmation of sixth hypothesis, it became clear that the research methods used by teachers have been effective in improving relations between them and students' parents. This effect in improving relations between them and students' parents are as following: promoting the sense of consultation and exchanging ideas between teachers and parents, controlling and evaluating programs and students assignments in collaboration with parents, encouraging parents to provide a variety of resources and tools for students, participation of parents in different school subjects and issues, acquisition of common recognition (teachers and parents) of interest, desire, needs and students' talents, using different viewpoints and perspectives' of parents and encouraging them to provide their views and perspectives and participating parents in teaching and learning of students. Thus, this question's findings are consistent with research results of Laalian (1993).

Due to confirmation of all research hypothesis, it can be concluded that the research methods used by teachers are effective on quality of their teaching performance.

Therefore, teachers are considered as key element in education system that have a unique role in achieving the system's goals. Specialist, dynamic, motivated and interested teachers have important role in achieving educational goals. One of the method which can help to promoting this role playing, is increased involvement of teachers in whole educational process, and research is the tool that may contribute to even higher levels of decision-making. According to research findings, the use of following suggestions will be helpful:

- 1- Given to importance of students' participation in the learning process and emphasize on new theories of psychology - Learning and teaching on this subject, it is recommended that educational authorities create necessary mechanisms to conduct research by teachers, thereby providing necessary grounds to establishing great participation of students in education issue.
- 2- Given to role of establishing constructive relationship between student and teacher in teaching- learning process, it is recommended that requirements for such relationships would be provided. Thereby we can encourage other teachers to conducting research and using its results in context of constructive relationship with student.
- 3- Expansion of educational system interaction with society which is in progress has led to that, this system will face with new challenges every day. Teachers are comprises the main body of educational system, and on the other hand is only person who is grappling with issues and problems of classroom directly or momentarily. Therefore he/she could be very helpful in recognizing disruptive problems of education and resolve them. Therefore, it is recommended that by valuing teachers' research, their results will be use in order to resolve the problems of educational system and classroom. Using teachers' research results can be as incentives and motivations for other colleagues.
- 4- Given to that, research methods used by teachers are effective to identifying appropriate teaching method, it is recommended that required condition will provided to establishing a research culture of teacher in comprehensive and continuous program form to be more effective thorough educational methods.
- 5- It is recommended that by designing courses and workshops, research methods in applicable way will teach to teachers.
- 6- It is recommended that teachers with research experience be used for conducting workshops about manner of doing research and using its results in training process.
- 7- It is recommended that, necessary legal and administrative mechanisms will be design in order to families' participation in teachers' research.
- 8- It is recommended that a bank with reports of teachers' research findings will establish to provide utilization possibilities of these experiences for other colleagues.
- 9- According to that research methods used by teachers have been effective in utilizing a variety of learning opportunities and numerous different tools and instruments in educational process, it is recommended that the results of such studies of content service training courses for teachers will used.
- 10- It is recommended that by giving research journals and books about research methodology, necessary fields will be provided in order to creating scientific and research atmosphere at schools.

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