

The impact of applying new technology on student's achievement

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ABSTRACT

In this paper, we discuss the importance of new technology on student's achievement that its results could be used by authorities, the aim of presented study is: the effect of new technologies on students achievement and the specific objectives are:

- 1- Determining the relationship between training of teachers and their willingness for applying the new technologies.
- 2- Determining the relationship between active approach of school's Principles and teacher's willingness for applying the new technologies.
- 3- Determining the effect of considering administrators viewpoints (administrator monitoring) for increasing the willingness of the teachers to apply new technologies.
- 4- Determining the relationship between authorities motivational strategies and encourage teachers for applying new technologies.
- 5- Determining amount of using new technologies by the teachers graduated from teacher training Institutions and the other teachers.
- 6- Determining the relationship between teacher's degrees and the history of their services and their willingness to apply new technologies.
- 7- Determining the relationship between teacher's sex and their willingness to apply new technologies.

Hypothesis of study:

- 1- There is a relationship between training of teachers and their willingness for applying new technologies.
- 2- There is a relationship between active approach of schools principles and teachers willingness for applying new technologies.
- 3- Considering the viewpoints of authorities (administrators monitoring) has a positive effect to increase willingness in order to apply new technologies.
- 4- There is a relationship between authorities encouraging measures and encouraging teachers to apply new technologies.
- 5- Teachers graduated from teachers training institutions use the new technologies more than the others.
- 6- There is a relationship between teachers' degrees and history of their services on one hand and their willingness to apply new technologies on the other hand.
- 7- Teachers gender is effective on their willingness to apply new technologies.

Statistical population is included all of the teachers in Malekan area in 2010 -2011 academic year who 437 of them are primary school teachers, 294 people are secondary school teachers and 239 people are high school teachers. Statistical sample size based on Morgan's determining sample size table is equal to 278 people. Simple random sampling has been used in this research. The method of presented research is: "descriptive" type of surveying, in this type of researches, researchers are attempting to report all things without any interference or mental inferred and objective results are reported. Measuring tool in this research is: "questionnaire" which has been produced by the researcher. Analysis of information and data in this study was conducted in two parts: descriptive and inferential. The results are followed:

- There is relationship between training of teachers and their willingness to apply new technologies.
- There is a relationship between administrators monitoring and increasing the teacher's willingness to apply new technologies.
- There is a relationship between authorities' motivational strategies and encouraging teachers to apply new technologies.
- There is no difference between applying new technologies by graduated teachers of teacher training institutions and the other teachers.
- There is no relationship between teacher's degrees and their willingness to apply new technologies.
- There is no relationship between the history of teacher's services and their willingness to apply new technologies.
- There is no difference to apply new technologies in terms of their gender.

KEYWORDS: New technologies, achievement, students

1. INTRODUCTION

Students' achievement is regarded as one of the significant and important components to achieve educational system to its goal. On the other hand teaching aid has effect on students achievement and in educational systems teaching aids simple or complex are used as a tool to facilitate teaching and learning. These

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tools are important because of combining theory and practice and caused retention and diversification of learning in the class. Considering the scientific and technological developments in contemporary era, teaching aids as well as association have been able to play its role. It is obvious that if teachers have necessary skills to use these tools, they will be more effective.

Learning is very complex and involves multiple factors and it occurs when these factors are together. Learning in the classroom, in particular, is important and more sensitive. Because there is substantial difference between class environment and outer environments, more attention and cautious is needed. The main factors related to learning in the classroom are:

Physical and mental conditions and personality of the teacher, content of educational resources, educational values and regulations spaces and teaching aids has a special status in terms of combining and coordinating theory and practice and students achieve meaningful learning. Unfortunately, regular and systematic use of audiovisual equipment under any title will be forgotten at schools and often lack of using teaching aids are justified by lack of time and devices. We hope that a day will come that the use of teaching aids become institutionalize in order to make our educational system dynamics (shoarinejad, 1978).

Regardless of determining educational role of the teachers on personality and demeanor of the students which are not discussed in this study, one of their important tasks is to teach their students properly and efficiently. Scientists and experts of education believe that using the suitable and new tools during the process of education is the indispensable prerequisite for learning. Thus utilizing new teaching tools are considered as an integral part of teacher's duties.

Experience has shown that establishment of a system based on utilizing new educational technologies and tools depends on social –political system of each country on one hand and analyzing the needs, environment, location and ability of using educational tools and technologies on the other hand. But the human factor (teacher) is very important for establishing of educational technology. It is true that most of the teachers because of being scared of using new technologies and equipment, rigidity of curriculums and unilateral application of media, don't accept educational technologies easily, but the main reason for their resistance against new technologies refuse from interfering or little interference which is involved in all stages of system from choosing to build and utilizing and evaluating technologic system.

All of the researches and various studies which have been conducted by researchers and specialists, confirm this fact that, using the new educational tools have a useful and indisputable figure to promote quality of education and improving the teaching process. Even maybe there is no need to do more researches about the results of using this tools in the process of educating. In this paper, the impact of new technology on students achievement will be discussed which its results could be used by the relevant authorities.

Previous findings (scientific researches):

-Bateni, 1993, evaluating the use of educational materials in schools of East Azarbayjan Province. Results show that, allocating sufficient economical and financial resources to the schools, being fully awareness of how to use of educational tools by the teachers, the motivation of teachers, presence of specialists and instructional technologists, being aware of concept and philosophy of instructional technologies by principles can have beneficial effects for enhancing the use of teaching aids. In connection whit above, 67.65% samples stated that teaching aids such as television, video, radio are limited and these devices are used rarely. Also using the educational materials in secondary schools of province is equal : 22.60%, in primary schools: 93.62% and high schools: 87.73% which are in low level and so amount of using educational materials in secondary schools are more than primary schools and high schools.

- Principles and teachers of primary schools in Semnan province believe that, the way of using educational tools and media was not accurately continuously by the teachers (Kerkabadi, 1994)

- Applying non –scientific management practices and being managers unaware of concept and philosophy of educational technologies and its role in furthering educational goals (Nematzadeh, 1992).

- Having no access to the educational media by some teachers, being teachers unaware of the role of educational media, lack of adequate knowledge of managers ,lack of suitable space, lack of supervision and following –up authorities organizations (Atharirad, 1995).

Statistical population, samples and sampling methods:

Statistical population is included all of the teachers in Malekan area in 2009 -2010 academic year, that 437 of them are primary schools teachers, 249 of them are secondary schools teachers and 239 of them are high schools teachers. Statistical sample size in this study was concluded 278 people based on Morgan's tables. In this study, a sample random sampling has been used.

Tools of data collecting:

Data which was needed for this study, were collected through questionnaire.

Methods of analyzing statistical data:

Data analyzing in this study was conducted in two distinct parts:

A) Descriptive part: in order to analyze collected data in descriptive part, frequency distribution diagrams and tables tend to center are used.

B) Inferring part: In this part of data analyzing, valid test were used to determine significance of hypotheses.

METHODOLOGY

The method of this study is descriptive, type of survey. In this type of research, the researcher will attempt to report everything without any interference or mental deduction and report the results to be objective. The findings are as follows:

The main hypothesis of the research: there is a relationship between using new technologies by the teachers and students achievements.

The main hypothesis of this study was to evaluate the relationship between using new technologies by the teachers and students achievement. For making comparison and studying the above mentioned, “Pearson correlation coefficient test” has been used.

The underlying (main) assumption (H1): There is a significant relationship between using the new technologies by the teachers and students and student’s achievement.

The null hypothesis (H0): There is no significant relationship between using the new technologies by the teachers and students achievement.

The results of Pearson correlation test is presented in table below, so that the data in above table shows, correlation coefficient between using the new technologies by the teachers and students achievement is equal to R= 0.427.

Therefore considering the range of “R” changing (-1 +1), it can be concluded that, correlation between two variables –using the new technologies by the teachers and students achievements- is in high level and the level of significance is equal to P= 0.001. So, considering that significant level is less than P= 0.05, it can be concluded that, the null hypothesis is rejected and underlying hypothesis (H1) is confirmed. In other words, it can be claimed –more than 95% of insure- that there is a significant relationship between using new technologies by teachers and students achievement.

Level of significance	Correlation coefficient	Standard deviation	average	Description of variable
0.001	0.427	2.1	7.1	Educational achievement
		3.1	11.5	Using the new tech.

Descriptive information of: pearson correlation test referred to relationship between using the new technologies by the teachers and students achievement

1-There is a relationship between training of teachers andtheir willingness for applying new technologies:

The relationship between training the teachers and their willingness to use the new technologies in this study, will be investigated in hypothesis number one, in order to investigate mentioned hypothesis, Pearson correlation coefficient has been used. The results of the test are given in table below, as the data in table below shows, calculated correlation coefficient is R= 0.241 and resulted credit level is equal to P= 0.001 so, considering resulted credit level is less than 0.05, it can be concluded that hypothesis number one will be confirmed and there is a relationship between training of teachers and their willingness to apply new technologies. In other words, by improving the quality of teachers training, their willingness for applying new technologies will be increased.

Level of significance	Correlation coefficient	Standard deviation	average	Description of variable
0.001	0.241	1.92	6.11	Training of teachers
		2.0	6.61	Willingness to apply new technologies

Descriptive information of: Pearson correlation test referred to relationship between training of teachers and their willingness for applying new technologies.

2- There is a relationship between active approach of school's principles and teacher's willingness for applying new technologies:

The relationship between active approach of school's principals and teachers willingness to use the new technologies in this study, will be investigated in hypothesis number two, in order to investigate mentioned hypothesis, Pearson correlation coefficient has been used. The results of the test are given in table below, as the data in table below shows, calculated correlation coefficient is $R= 0.235$ and resulted credit level is equal to $P= 0.001$ so, considering resulted credit level is less than 0.05, it can be concluded that hypothesis number two will be confirmed and there is a relationship between active approach of schools principles and teachers willingness to apply new technologies. In other words, the more active approach of school's principles, the more teachers get interested in applying new technologies.

Level of significance	Correlation coefficient	Standard deviation	average	Description of variable
0.001	0.235	2.0	6.61	Willingness to apply new technologies
		5.36	5.52	Principle's active approach

Descriptive information of: Pearson correlation test referred to relationship between active approach of schools principles and teachers willingness for applying new technologies.

3- There is a relationship between administrator's supervision and increasing teacher's willingness for using new technologies:

The relationship between administrators supervision and increasing teacher's willingness to use the new technologies in this study, will be investigated in hypothesis number three, in order to investigate mentioned hypothesis, Pearson correlation coefficient has been used. The results of the test are given in table below, as the data in table below shows, calculated correlation coefficient is $R= 0.194$ and resulted credit level is equal to $P= 0.001$ so, considering resulted credit level is less than 0.05, it can be concluded that hypothesis number three will be confirmed and there is a relationship between administrators supervision and increasing teacher's willingness to apply new technologies and it can be concluded that, supervision of administrators is associated with their willingness directly and student's achievement indirectly.

Level of significance	Correlation coefficient	Standard deviation	average	Description of variable
0.001	0.194	2.0	6.61	Willingness to apply new tech.
		2.1	7.27	Administrator's supervision

Descriptive information of: Pearson correlation test referred to relationship between administrators supervision and increasing teacher's willingness for applying new technologies.

4- There is a relationship between authorities motivational strategies and encouraging teachers for applying new technologies:

The relationship between administrators supervision and increasing teacher's willingness to use the new technologies in this study, will be investigated in hypothesis number four, in order to investigate mentioned hypothesis, Pearson correlation coefficient has been used. The results of the test are given in table below, as the data in table below shows, calculated correlation coefficient is $R= 0.486$ and resulted credit level is equal to $P= 0.001$ so, considering resulted credit level is less than 0.05, it can be concluded that hypothesis number four will be confirmed and there is a relationship between authorities motivational strategies and encouraging teachers to apply new technologies and therefore it can be concluded that, authorities motivational strategies and encouraging teachers for applying new technologies will result in more usage of new technologies by teachers and indirectly, has an effect on students achievements.

Level of significance	Correlation coefficient	Standard deviation	average	Description of variable
0.001	0.486	2.0	6.61	Encourage to apply new tech.
		1.8	5.0	Motivational strategies

Descriptive information of: Pearson correlation test referred to relationship between authorities motivational strategies and increasing and encouraging teachers for applying new technologies.

5- Teachers graduated from teacher’s training institutions apply new technologies more than the other teachers:

The difference between amount of interest of teachers graduated from teacher training institutions with the other teachers for applying new technologies have been studied and compared in hypothesis number five. Based on type of variables, T –test has been used in two independent groups for this hypothesis. The results of T –test is given in table below. As the data in the table below shows, the resulted “T” coefficient and credit level are: T= 1.251 and P= 0.265 and with respect to the obtained value of credit level which is more that maximum acceptable to support the hypothesis (P= 0.5), therefore it can be concluded that, hypothesis number five will be rejected and there is no difference between willingness of using new technologies by teachers graduated from teachers training institutions with the other teachers. It can be concluded that, teachers graduated from teachers training institutions apply new technologies as well as the other teachers.

Level of significance	T	Standard deviation	average	Description of variable
0.265	1.251	1.8	6.5	Graduated from teacher training ins.
		2.1	6.7	The other teachers

Information of: T- test referred to difference between applying new technologies by teachers graduated from teacher training institutes and the other teachers

6- There is a relationship between teacher’s degree and their interest for applying new technologies:

The relationship between teacher’s degree and their interest for applying new technologies in this study will be investigated in hypothesis number 6. In order to investigate hypothesis number 6 analysis of variance test has been used.. As the results of the analysis of variance test shows, resulted credit level is equal to: P= 0.119 which is more than maximum acceptable for supporting the hypothesis (P= 0.05) therefore it can be concluded that, hypothesis number five will be rejected and on the other words, there is no difference among teachers for applying new technologies based on their degrees. So it can be concluded that teachers with different degrees use the new technologies the same.

Level of significance	F	Average radical	Total radical	Source of changings
0.119	1.971	7.14	21.4	Inter group
		3.62	945.9	Intra group
			967.3	Total

Descriptive information of: analysis variance test referred to relationship between teachers degree and their willingness for applying new technologies.

7- There is a relationship between the history of teacher’s services and their willingness for applying new technologies

The relationship between the history of teacher’s services and their willingness for applying new technologies in this study, will be investigated in hypothesis number seven, in order to investigate mentioned hypothesis, Pearson correlation coefficient has been used. The results of the test are given in table below, as the data in table below shows, calculated correlation coefficient is R= 0.141 and resulted credit level is equal to P= 0.001 so, considering resulted credit level is more than 0.05, it can be concluded that hypothesis number seven will be rejected and there is no relationship between the history of teacher’s services and their willingness to apply new technologies and it can be concluded that, there is no connection between the history of teachers services and their willingness for applying new technologies.

Level of significance	Correlation coefficient	Standard deviation	average	Description of variable
0.141	0.101	2.0	6.61	Encourage to apply new tech.
		6.4	15.3	The history of services

Descriptive information of: Pearson correlation test referred to relationship between the history of teachers services and their willingness for applying new technologies.

8- Teachers willingness for applying new technologies is different considering their sexes:

The difference between teacher’s willingness for applying new technologies considering their sexes have been studied in hypothesis number eight. Based on type of variables, T –test has been used in two independent

groups for this hypothesis. The results of T –test is given in table below. As the data in the table below shows, the resulted “T” coefficient and credit level are: $T= 0.340$ and $P= 0.734$ and with respect to the obtained value of credit level which is more than maximum acceptable to support the hypothesis ($P= 0.5$), therefore it can be concluded that, hypothesis number eight will be rejected and there is no difference between teacher’s willingness for applying new technologies considering their sexes and either male or female teachers use new technologies the same.

Level of significance	Correlation coefficient	Standard deviation	average	Description of groups
0.734	0.340	2.1	6.5	Male
		1.7	6.4	Female

Information of: T- test referred to difference between teacher’s willingness for applying new technologies regarding their sexes.

Results of the study are followed:

- There is a relationship between training of teachers and their willingness for applying new technologies.
- There is a relationship between active approach of school’s principles and teacher’s willingness for applying new technologies.
- There is a relationship between administrators monitoring and increasing the teacher’s willingness to apply new technologies.
- There is a relationship between authorities’ motivational strategies and encouraging teachers to apply new technologies.
- There is no relationship between usage of new technologies by graduated teachers from teacher training institutions and the other teachers.
- There is no relationship between teacher’s degree and their willingness for applying new technologies.
- There is no relationship between history of teacher’s services and their willingness for applying new technologies.
- Willingness of teachers for applying new technologies is not different considering their sexes.

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