

Deliberation of the Educational Technologies Effects in the Teachers' Teaching and Learning at Iran's Secondary Schools

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Abstract: The aim of the current essay is to consider the effect of application of educational technologies in teachers' teaching-learning process at Iran's secondary schools. The studied society includes all the teachers in Iran's secondary schools. The sample capacity is based on scientific factors and the capacity-defining table is for 354 persons who are selected by random-category sampling method of the stated population. The research method is from the measuring method and for questions of the research, the questionnaire was used. Therefore, there is questionnaire, which includes five combinations, Lesson books context, the quantity of facilities and educational technology, the quality of facilities & educational technology and educational technique. For defining the validity of the questionnaire, the context and shape validity was used and Cronbach Alpha (0.84) calculated and confirmed its reliability. For analyzing descriptive and comprehensive statistics, the X^2 test was used. The research results have showed that IT is effective on teachers' professional progress in all the five combinations.

Key words: Educational Technology • Teachers • Professional Progress • Schools

INTRODUCTION

The World is changing with respect to scientific and technical advancements and the aim of the educational organization is to prepare humans to live in a changing society which expects it to choose methods to better the quality, speed and expansion of science and technique of education and if we do not go with world changes, the scientific advancement of the other countries would result in their political and military advancement and the other countries colony would be successful. Not only would the political, military, cultural and economical dependences of a country get endangered but also it is a great abashment for Islam. So, any simple and austere look at education would be an unforgivable mistake and amongst it performing beneficial actions in education, according to limited amenities and the importance of time, speed and the heavy burden that results without educational organisation and the responsibility that we feel towards them, all lead us to computer and educational technology use and surely powerful and triumphal attendance in the future would not be possible without its use nowadays [1-3].

In a changing World, the essence of education has been accepted for several reasons. Quick and deep

scientific changes have caused the acquisition of new sciences and new knowledge as well as, sometimes, new theories and contexts. Techniques and their changes cause revolutions in organisational methods and approaches and every change makes the acquisition of knowledge and techniques more necessary. The qualitative and quantitative amounts of these changes are very high which sometimes frightens managers and staff alike and maybe they feel unable to get used to these changes. With all the hardships and difficulties we should accept that the continuation of the organisation and its activity depend upon different knowledge, awareness and skills. The more knowledge and skills of the staff accord with social needs and scientific advancements and techniques changes, the higher the assurance degree of one's condition in the organisation will be. The educational preference was always towards policy rather than design and that is why emphasis was on techniques and arts in the teaching process but now, with the passing of time, it is essential to get a more organised method. In fact, we live in an unfixed era where the techniques related to knowledge and information attainment gradually replace mechanical work. For doing this role, education needs a new tenet to make decisions in relation to change and innovation in that tenet [4-7].

In recent years, a sort of educational technology has been created. This technology makes a proper approach to programming and organisation of educational sources in order to define educational aims with behaviouristic levels. As the existence of the important roles which educational technology and computer play in teaching methods and information transfer, the importance of this subject can be effective. Hence, the presented research is going to gain these aims deliberation of the effect of lesson context use in different courses on teachers' teaching and education process as below:

- Deliberation of effect of the quantity of educational materials use on teachers' teaching and education.
- Deliberation of the effect of the quality of educational materials use on teachers' teaching and education process.
- Deliberation of the effect of the educational technology training completion on teachers' teaching and education process.
- With respect to these four point, many researches have achieved the points in the discussion which follows:

The results of a research showed that from the view point of the sample group, the unfitness of lesson contextual capacity with the given time, the unavailability of teachers to media and educational materials, students' tiring and their boredom, lack of facilities and materialistic sources, lack of useful educational magazines of educational technology and teachers' inability with materials and device provision are the most important factors that have the most preventive role in educational technology use in the new system of high schools in this society. Also, other factors such as the negative image of teachers towards educational technology profit, teachers' unawareness of new teaching methods, teachers' unawareness towards lesson plan importance and its essence and much too emphasis on rules performance in the evaluation of teachers had the least preventive role [5].

Some Researchers believe that most of the teachers are not aware of educational aims and so efforts should be done to gain the aim. In his belief, over half of the teachers are not aware of teaching methods and educational plan. They use the traditional methods more in education and are not well-trained to construct media [5-9]. based on results obtained by another study, about difficulties and educational results of new technologies for teachers, the below results were concluded Variety in

educational technology utilisation, educational technology role revolution, emphasis on aims and targeting an aim, expanding far web training, teacher's guidance provision of educational technology, educational time exceeding, creative teachers training, using educational technology in educational organisation of old problems.

MATERIALS AND METHODS

Research Method: The research method in this project is descriptive and from the ground type. A descriptive research done to describe a researched society about spreading a phenomenon and the researcher does not argue about the reason of spread for this but he focuses on the quality of that in the society and hence describes it. Ground research is observing phenomena to make different aspects of gathered information meaningful.

Statistical Society and Sample Content: The studied society includes all teachers of Mazandaran high schools who are, in all, 7266 persons. From this population (3784 are men and 3482 are women). For defining, the sample capacity the Corgecy and Morgan table was used and according to the stated capacity of society, the number of samples is 354. For sampling, a combination method (branch, category and simple random) was used. The 31 cities and territories of Mazandaran were divided into three groups of big cities, mountain dwellings and small towns and beach cities and from each 3 groups, 3 cities were chosen by a simple random method.

Research Question Validity and Reliability: The validity of the test refers to the rational relationship between the test question and the tested subject. When it is said that a test has validity, it means that the test questions test what is considered. Validity has different aspects and it does not take shape when the test is related with the tested ones on one side and unrelated with the tested ones on the other side. To consider the validity of the questionnaire the research table of the questionnaire facing questions and research theory were set and handed to specialised individuals to give comment and as they were commenting, it was heard that the questionnaire had an appropriate validity. Reliability refers to the continuity of the test result and questionnaire. It means that if we repeat the test and the result is similar to the previous test results it is said that the test has reliability. Examining the reliability of the test has different methods

such as test repetition with parallel questionnaires, the test of halving questions. In this research for defining, the reliability of the test 30 persons filled the questionnaires, the questions were halved and the calculation of Cronbach Alpha questionnaire equalling 0.84 was done, which is acceptable.

Information Gathering Method: As gathering proper information should happen regarding the research method characteristics and the sort of selection sample, in this research, besides using different books of educational technology, magazines, essays, internet, etc, the closed questionnaire was used as well.

Data Analysis Method: After gathering information by the questionnaire and providing frequency and frequency answers percent to every theory, the theories test was done by X^2 with the help of SPSS software (Version 16). The reason for X^2 is that when the research data are joined or disjoined it infers when data are calculated. Another one does not affect X^2 test is the test of independence meaning every variable and there is no relationship between them. In this research X^2 test is used because data are used as joined or disjoined.

RESULTS

- Deliberation of the effect of lesson context use in different courses on teachers' teaching and education process.

The data about tasting the effect of lesson context use in different courses on teachers' teaching and education process summarized in Table 1.

The above data show that only 19.5% of the samples believed that the context of educational books of secondary stage makes it possible at high and very high level to use educational technology. 6.5% of the samples believed that the context of the educational books makes it possible at low and very low levels to use educational technology, meaning that 74% believed that the context of the educational books makes it possible to use educational technology at medium level. As X^2 shows the difference between frequencies because the calculated X^2 equaled 478 of crisis X^2 with freedom angle 4 at the probability level 5% equaling 7.81 observed higher so we can say with 95% assurance that the observed differences are real and not by chance or accidental. According to 19.5% acceptance of the samples at high and very high level in comparison with 6.5% of the samples at low and

Table 1: Deliberation of the first Aim of the Research

Choices	Very High	High	Medium	Low	Very Low
Frequency	2	67	262	23	0
Frequency					
Percent	0.6	18.9	74	6.5	0

Calculated $X^2 = 478$, $X^2 = 7.81$, $DF = 3$, $P = 0.05$.

Table 2: Deliberation of the second Aim of the Research

Choices	Very High	High	Medium	Low	Very Low
Frequency	28	158	139	25	4
Frequency					
Percent	7.9	44.6	39.3	7.1	1.1

Calculated $X^2 = 291.62$, $X^2 = 7.81$, $P = 0.05$, $DF = 3$

very low level to use educational technology, our theory is admitted. Therefore, it could be said that the secondary stage educational books make it possible for teachers to use educational technology.

Deliberation of Effect of the Quantity of Educational Materials Se on Teachers' Teaching and Education: The data about tasting the effect of the quantity of educational materials se on teachers' teaching and education summarized in Table 2.

The above data show that 52.5% of the samples believed at very high and high level that the quantity of facilities and educational technology materials makes it possible to use educational technology. 8.2% of the samples believed at low and very low level that the quantity of facilities and educational technology materials makes it possible to use educational technology and 39.3% believed so at medium level. As X^2 test shows the difference of frequencies meaningfully because the resulted X^2 equals 291.62 of crisis X^2 with freedom angle 4 and at the probability stage of 0.052 equaling 7.81 was observed higher so we can judge with 95% assurance that the observed differences were real and not by chance or accident and regarding 52.5% agreement of the samples at high and very high stage in comparison with 8.2% of the samples at low and very low level who believed that the quantity of educational materials and facilities makes it possible to use educational technology, our theory is admitted.

Deliberation of the Effect of the Quality of Educational Materials Use on Teachers' Teaching and Education Process: The data about tasting the effect of the quality of educational materials use on teachers' teaching and education process summarized in Table 3.

Table 3: Deliberation of the third Aim of the Research

Choices	Very High	High	Medium	Low	Very Low
Frequency	46	131	116	37	24
Frequency					
Percent	13	37	32.8	10.5	6.8

Calculated $X^2 = 135.80$, $X^2 = 7.81$, $P = 0.05$, $DF = 3$

Table 4: Deliberation of the Fourth Aim of the Research

Choices	Very High	High	Medium	Low	Very Low
Frequency	21	186	129	18	0
Frequency					
Percent	5.9	52.5	36.4	5.1	0

Calculated $X^2 = 233.59$, $X^2 = 7.81$, $p = 0.05$, $df = 3$

The above data show that 50% of the samples believed at high and very high level that the quality of facilities and educational technology materials makes it possible to use educational technology. 17.3% of the samples believed at low and very low level that the quality of facilities and educational technology materials makes it possible to use educational technology. 32.8% believed so at medium level. As X^2 test shows the difference of frequencies meaningfully because the calculated X^2 equals 135.80 from crisis X^2 with freedom angle 4 and at the probability level 0.05 equaling 7.81 observed higher, so we can judge with 95% assurance that the observed differences are real and not by chance or accident and regarding 50% of the samples at high and very high level in comparison with 17.3% percent of the samples who believed at low and very low level that the quality of facilities and educational technology materials makes it possible to utilize educational technology, our theory is accepted.

Deliberation of the Effect Educational Technology Training Completion on Teachers' Teaching and Education Process: The data about tasting the effect educational technology training completion on teachers' teaching and education process summarized in Table 4.

The above data show that 58.4% of the samples believed at high and very high level that the existence of educational space at a proper amount at schools is one of the reasons to use educational technology. 5.1% of the samples believed at low and very low level that the existence of educational space at a proper amount at schools is one of the reasons to use educational technology and 36.34% believed so at medium level. As X^2 test shows the difference between frequencies because the calculated X^2 equals 233.59 of crisis X^2 with freedom angle 4 and at the probability level 0.05 equaling 7.81

observed higher, so we can judge with 95% assurance that the observed differences are real and not by chance or accident and regarding 58.4% of the samples at high and very high level in comparison with 5.1% of the samples at low and very low who believed that the existence of educational space at a proper amount is one of the reasons to use educational technology, our theory is admitted.

DISCUSSION AND CONCLUSION

The first aim of this research was "using the context of educational books is effective on teachers' teaching and education" which was admitted by X^2 test. This investigation accords with the conclusions of some studies and in these researches, the high capacity of the educational books and the necessity of their tutoring do not give enough chance to use educational technology. This means that the context of the educational books is set and designed in a way that teachers would not have enough chance to finish educational subjects if they are going to use educational materials. This condition is one of the shortcomings of the educational system because the main reason to use educational technology technique and materials is to make educational process and students' learning quicker and in some industrial countries, it is well used. If there is coordination, between the context and provision, form of educational books with educational technology materials and techniques students' learning would be quicker and deeper and teachers' boredom would be less [5-10].

The second aim of the research was Using the quantity of facilities and educational technology materials is effective on teachers' teaching and education process, which was admitted by X^2 test and this conclusion was accorded with the other researchers' investigations. As the lack of educational technology and devices at schools is unanimously one of the reasons of teachers' not using them and actually teachers stated that there are no educational materials and devices or they are limited and these situations cause teachers to ignore them. Therefore, educational planners should try to provide educational technology according to the necessary number of schools [10-12].

The third aim of the research was "Using the quality of facilities and educational technology materials is effective on teachers; teaching and education" which was admitted by X^2 test and this is in accord with the following research. Being uncoordinated with educational technology devices within an educational books context

and their chapters and sections are one of the most important problems in the way of educational technology materials use and utilisation. The educational materials and devices become old and archaic after long use and do not have usefulness in transferring concepts and therefore the teachers' and students' interest decreases. On the other hand, technical and scientific advancements have caused production of educational devices and educational technology in software and hardware and the new devices have the ability to transfer scientific concepts to students and their rejection of these makes a catastrophic hurt to the adolescents' abilities succeeding in our country [13-14].

The forth aim of this research was "Educational technology completion usage is effective on teachers' teaching and education" which was admitted by X^2 calculation. At most of the schools there is no special room to use educational technology devices and these devices are often held in drawers and brought to classes when necessary and are then used. One of the shortcomings of this method is devices and educational instruments decline due to much and improper transportation by students and officials. After several moving and use of them the devices get serious damage whilst it is necessary now to have a room in every school to hold and use educational technology devices and for providing a graph for schools construction there should be a separate audio-visual room and special wardrobes for educational technology devices [15-16].

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