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# A survey on instructional activities of distance education high schools in Tehran from the students point of view during 2012-2013 academic year.

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## ABSTRACT

Distance education is a way in which the learners don't physically attend in educational environment and classroom. The aim of the present study is to survey the situation of instructional activities of distance education high schools in Tehran from the students' point of view during 2012-2013 academic year about the quality, designing the materials, using the new technologies, and the things related to instruction. The research method is descriptive- survey. Statistical population of the research consists all the 13082 students of distance education centers of Tehran's high schools in 2012-2013 academic year. Statistical sample includes 373 students that are selected on the basis of Bulla's formula through a random clustered sampling due to district and sex of subjects. The data was gathered through a researcher made questionnaire. Suitable statistical descriptive and inference tests are used to analyze the data. The main findings of the research are: the quality of designing the materials, the quality related to instruction, and the quality of executive affairs in Tehran's distance education high schools are more than the average but the quality of new technologies in Tehran's distance education high schools are less than average.

**KEY WORDS:** Distance Education, Survey, High School, Tehran

### **1- INTRODUCTION**

Distance education is a new category in education. It is a method where the learner doesn't have physical presence in educational environment and classroom. The most important difference between this kind of education with other types is physical distance between learner, teachers and education institutes [1]. Distance education is done through media. Education, IT and communication media have a significant role in this type of education. IT and communication technology has solved the problem of distance largely. Because of this, the competition in international levels on distance education has been brought forth along with globalization plans in lots of countries [2].

In Pinas' view, in recent 33 years, the growth of distance education has been done more quickly than other forms of education. Among the contributing factors are economic sources, flexibility and deletion of distance dimension. In distance education, there is no need of physical buildings to present educational services. Also teachers and tutors have more time and more learners can be taught [3].

More than 80% of American schools and universities present some courses through web in the curriculum and more than 60% of big companies do some of their activities through internet [4].

As an educational method, distance education began as a necessity to obviate geographical and climatic limitations of educational environments and age and gender limitations of the learners. Historical overviews show that this method was used first by priests and religious missionaries. In 1836, Hawaii University was begun as one of the first correspondence education academies. In America in 1870s, the first steps were traversed. Establishment of Great Britain Free University in 1969 caused the opening of distance education universities in some countries especially in Europe and Asia. In Iran, Aburaihan Biruni University in 1972 started distance education in correspondence form. In 1974, Iran Free University was established. In 1995, Supreme Council of Cultural Revolution, obliged education to establish an institute for presenting semi-person and non-attendance education and in 1997, the statute of this institute was sanctioned. In 2004, distance education was launched. In 2005-2006 education year, this institute accepted learners from 15 provinces and in the next year it was generalized all over the country [2].

Regarding the primary establishment of such centers in America, Canada and some European countries, the experience of these countries can be used to increase the efficiency, standardizing and evaluating the contents and development of the centers. One of the standards enacted in October 2001 in North America was "distance education policies, standards and instructions". The most important standards include material development, new educational technologies, teaching related issues like lesson plans, administration affairs such as class time table, class location, educational costs and distance education laws [5].

In a study titled "investigation of the problems of distance education from Isfahan's high schools teachers and learners' perspective", Etezadi [6], referring to studies of Ellsworth [7], Pina[3], Hasanzadeh [8], and Pakideh and Rostami [9] concluded that learners have limitations in getting access to IT, lack of briefing sessions, necessary information and culturing. Also the results showed that from students' perspective, different kinds of educational,

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financial-official and outer-organization problems were more than the mean level at (p < 0.05) error level but from teachers' perspective, only educational problems were higher than mean level [6].

In a study titled "the effect of learning metacognitive strategies English language learners' achievement in distance education", Zahedi and Dormanesh [10] showed that bachelor English students who used more metacognitive strategies gained higher scores in exams.

Talebzadeh and Hussaini [11] in a study titled "investigation of effectiveness of distance education centers and their curriculum in high schools" showed that effectiveness rate of execution of distance education based on centers' sources and structures, learners' satisfaction and meeting their needs, expansion of flexibility in education methods, development of ICT application, influencing on learners' self-learning and execution of sanctioned education programs have been notably significant.

Pakideh and Rostaminejad's [9] research on learners attitude about distance education among prison staff showed that satisfaction level of designing and executing distance education is in a desirable level and a significant portion of staff (70%) announced their satisfaction in high and very high level.

In his study titled "consideration of barriers of virtual and distance education of high school principals in Tehran", Taghvai [11] showed that equipment factors were the first deterrent cause followed by financial and human factors. In his study titled "investigation of effectiveness of distance education centers and their curriculum in Iran's high schools in 2006-2007 education year", Hussaini found that distance education, regarding sources and structure, has been successful at 90% rate in all Iranian education system and totally their effectiveness has been very desirable at 99% [12].

Zamani and Madani[13] studied distance education and solutions to increase efficiency and effectiveness of teachers and concluded that nowadays the main challenge of distance education system stakeholders is providing powerful learning environment for learners. The purpose of powerful learning environments is development of complicated and high-level skills, erudite understanding of concepts and metacognitive skills such as monitoring their learning.

Jaoe et al in a study aiming at investigating learners' empowerment in relation to technologies found that students' high empowerment was because of their correct understanding of instruments and technologies. Also they found a meaningful difference between empowerment in courses and the rate of using internet [14].

Pina[3] studying the contributing factors in promotion of distance education found 30 influencing factors such as accessibility to technologies especially on-line libraries, using principles of educational planning and policies for stabilizing distance education and finally stable financial support and high level of managers' information.

Jamtshoet al., [15] study on improving distance education quality through identifying problems showed that most of students (87%) didn't have accessibility to ICT services. Less than half of students (43%) reported that had interactions with other learners during the program and only 35% had easy access to computer.

Simpson's study on availability of memorization and course selection in distance education learning showed that all methods which were introduced for course selection had problems regarding the costs or introduction of course status [16].

Mc Linden et al., [17] investigated the problems of distance education and found that learners are doubtful to participate in distance programs at the beginning but their interest increase after entering the courses.

Based on what was discussed, it is clear that distance education has found its place in Iranian curriculum, so; the present study probes distance education in high schools. Generally it can be said that the main purpose of the present study is to investigate distance education in high schools of Tehran in 2012-2013 from learners' perspectives. The followings are research questions.

1- What is the quality level of material development of Tehran high schools distance education from learners' perspective?

2- What is the quality of items related to distance education in Tehran high schools from learners' perspective?

3- What is the quality level of Tehran high schools distance education from learners' perspective?

4- What is the quality level of executive affairs (class time table, class holding locations, education costs and the related rules) of distance education in Tehran high schools from learners' perspective?

5- Is there any meaningful difference in the above questions based on demographic variables of learners (gender, education level, field of study, education area)?

## 2- METHODOLOGY

The present study is survey-descriptive trying to provide a picture of students' opinions about education programs studying in distance education centers in Tehran. Statistical society include 13082 learners of 58 centers of high schools distance education in 2012-2013 education year selecting from 5 areas of education offices. To this aim, multi-stage cluster sampling was used. First, Tehran was divided to 5 clusters of North, South, East, West and central areas. Then one area was randomly selected for every cluster and then one girl high school and one boy high school distance center were selected randomly from every area. It should be noted that the number of samples for every area was selected in proportion with total number of learners and the questionnaires were answered by students randomly. Student selection was done according to lists randomly.

Table1.Learner samp	les of distance	education c	centers in Tehran

Total	Area 6 (center)	Area 9 (west)	Area 14 (east)	Area 17 (south )	Area 2(north)	Students
236	78	37	16	32	72	Boys
137	79	14	10	16	18	Girls
373	157	51	26	48	91	Total

Questionnaire is the instrument of the present study. After adaptation from NADE-TDEC Model, the questionnaire was designed and made. Since, its face validity and content validity was updated and localized through experts' opinions. After that it was framed based on five-point Likert scale. There are 30 questions in this questionnaire answering the research questions in four dimensions. There are 7 items for first research question (1-7), 11 items for the second research question (8-18), 6 items for the third research question (19-24) and 6 items for the fourth question (25-30). To consider the face and content validity, it was reconsidered several times by writers and professors. Cronbach alpha reliability came 0.882. It should be noted that reliability of the first question (the quality of material development and course content) was 0.745, second question (quality of modern education technology) was 0.823, the third question (the quality of issues related to education) was 0.742 and the fifth research question (executive affairs) was 0.923 showing good reliability of all research question. In descriptive statistics, after calculating the numerical values given to items, they were changed to frequency, mean and primary tables for describing the results. For inferential statistics, regarding the normal distribution of scores, parametric tests such as uni-sample t-test and independent t-test and ANOVA test for two-level variables followed by Tuckey and Scheffe tests.

## **3- RESULTS**

**First research question:** What is the quality level of material development of Tehran high schools distance education from learners' perspective?

There are 7 items for these questions in the questionnaire. First descriptive and then inferential statistics are shown.

Table2: Ecamers' evaluation for research questions									
Mean	Very high	High	Mid	Low	Very low	Measure	Questions		
3.43	76	95	133	51	18	Frequency	Fist question: the quality of material development and		
	20.4	25.5	35.7	13.7	14.8	Percent	course content		
2.87	42	72	107	97	55	Frequency	Second question: the quality of modern education		
	11.3	19.3	28.7	26	14.7	Percent	technologies		
3.24	69	90	111	67	36	Frequency	Third question: the quality of issues related to		
	18.5	24.1	29.8	18	9.7	Percent	education		
3.27	67	91	119	69	27	Frequency	Fourth question: the quality of executive affairs		
	18	24.4	31.9	18.5	7.2	Percent			

**Table2.** Learners' evaluation for research questions

As shown in table 2, 18.5% of learners believe that the quality of material development in distance education high schools of Tehran is in low and very low levels, 35.7% is in mean level and 45.9% is in high and very high levels.

Table? Uni complet test mean comparison with m-2 supposed mean

#### **Inferential results**

(Sig)	df	Т	SD	Mean	Supposed mean	<b>Research</b> questions
< 0.0005	372	12.186	0.680	3.43	3	Question one
< 0.0005	372	-5.777	0.683	2.87	3	Question two
< 0.0005	372	5.474	0.837	3.24	3	Question three
< 0.0005	372	7.540	0.687	3.27	3	Question four

As shown in table3, significant level is <0.0005 and since it is less than 0.05, so; the observed difference is meaningful at 95% confidence level. In other words, learners believed that the quality of material development in distance education high schools of Tehran is higher than the mean level.

**Question two:** what is the quality level of the used new education technologies in distance education high schools of Tehran from learners' perspective?

There are 11 item in the questionnaire to consider this item. Descriptive and inferential statistics are explained.

**Descriptive statistics:** as shown in table, 40.7% of learners believed that the quality of the used new technologies in distance education high schools of Tehran was low and very low, 28.7% was mid and 30.6% was at mean level.

**Inferential statistics:** as shown in table3, significant level is <0.0005 and since it is less than 0.01, so the observed difference is meaningful at 99% confidence. In other words, learners believed that the quality of the new used technologies in distance education high schools of Tehran is less than mean level.

**Question three:** what is the quality of issues related to education in distance education high schools of Tehran from learners' perspective?

There are 6 items in questionnaire to measure this question. Descriptive and inferential statistics are explained.

**Descriptive statistics:** as shown in table2, 27.7% of learners believe that the quality of issues related to education in distance education high schools of Tehran is in low and very low levels, 29.8% in mid and 42.6% is in high and very high levels.

**Inferential statistics:** as shown in table3, significant level is 0.0005 and since it is less than 0.01, so the observed difference is meaningful at 99% confidence. In other words, learners believed that the quality of issues related to education in distance education high schools of Tehran is more than mean level.

**Question four:** What is the quality level of executive affairs (class time table, class holding locations, education costs and the related rules) of distance education in Tehran high schools from learners' perspective? There are 6 items in questionnaire to measure this question. Descriptive and inferential statistics are explained.

**Descriptive statistics:** as shown in table2, 25.7% of learners believe that the quality of executive affairs in distance education high schools of Tehran is in low and very low levels, 31.9% in mid and 42.4% is in high and very high levels.

**Inferential statistics:** as shown in table3, significant level is 0.0005 and since it is less than 0.01, so the observed difference is meaningful at 99% confidence. In other words, learners believed that the quality of executive affairs in distance education high schools of Tehran is more than mean level.

**Question five:** Is there any meaningful difference in the above questions based on demographic variables of learners (gender, education level, age, field of study, education area)?

Only inferential statistics is used to investigate this question. It should be noted that f Smironov-Kolomogorov test for normal distribution of data was verified. Then, for gender which is a dichotomous variable, independent t-test and education level, age, field of study education office area which is multi-value variables, variance analysis is sued.

Table4. Independent t-test for gender variable									
Question	Gender	Frequency	Mean	SD	Т	Df	Sig		
1-quality of material development and	Boy	236	3.41	0.670	-0.885	371	0.377		
course content	Girl	137	3.47	0.699					
	Boy	236	2.80	0.654	-2.627	371	0.009		
2-quality of new education technologies	Girl	137	2.99	0.717					
3-quality of issues related to education	Boy	236	3.19	0.846	-1.52	371	0.129		
	Girl	137	3.32	0.818					
Executive affairs	Boy	236	3.19	0.686	-2.778	371	0.006		
	Girl	137	3.40	0.671					

## 5-1- Gender

The mean difference between boys and girls in all questions based on gender is not meaningful because significant level is less than 0.05 and all boys and girls have had similar opinions.

#### **5-2-Education Level**

<b>I ables.</b> ANOVA test for education level								
Sig	F	Mean squares	df	Sum of squares	Chan	ge sources Questions		
< 0.0005	12.253	5.201	3	15.604	Between group	1. Quality of material development		
		0.425	369	156.641	Inter-group	and course content		
			372	172.245	Total			
< 0.0005	22.728	9.020	3	27.061	Between group	2.Quality of new technologies		
	0.397			0.397	369	146.451	Inter-group	
			372	173.512	Total			
< 0.0005	5.591	9.774	3	29.321	Between group	3. Quality of issues related to		
		0.	0.627	0.627	369	369 231.320 Inter-group	education	
			372	260.641	Total			
< 0.0005	20.661	8.409	3	25.228	Between group	4.Executive affairs		
		0.407	269	150.185	Inter-group			
			372	175.413	Total			

The mean difference between boys and girls in all questions based on education level is not meaningful because significant level is less than 0.05 and all boys and girls didn't have similar opinions.

## 5-3- Field of study

Table6. ANOVA test for field of study							
nge sources Question	Cha	Sum of squares	df	Mean square	F	Sig	
1- Quality of material development and course content	Between group	13.288	3	4.429	10.283	< 0.0005	
development and course content	Within group	158.956	369	0.431			
	Total	172.245	372				
2- Quality of new education technologies	Between group	23.322	3	7.774	19.100	< 0.0005	
teennologies	Within group	150.190	369	0.407			
_	Total	173.512	372				
3-quality of issues related to	Between group	36.149	3	12.050	19.806	< 0.0005	
cuucation	Within group	224.492	369	0.608			
	Total	260.641	372				
<b>3-</b> Executive affairs	Between-group	24.969	3	8.323	20.414	< 0.0005	
	Within group	150.444	369	0.408			
	Total	175.413	372				

The difference between the mean of learners regarding their field of study is not meaningful because significant level is bigger than 0.05. Learners with different field of study didn't have similar opinions but, in question one, two and four, the mean difference is meaningful because significant level is more than 0.05 denoting that learners with different field of study didn't have similar opinions in first, third and fourth questions had different opinions. It should be noted that to know the meaningful difference between the groups, post-hoc Scheffe test was run (table6). (Only non-repetitive results are shown).

#### Table7. Post-hoc Scheffe test for research questions based on fields of study

Question	Field of study 1	Field of study 2	Mean difference	SD Error	Sig
1-quality of material development and course content	Human sciences and literature	Experiential sciences	-0.538*	0.159	0.011
2-quality of new education technologies	Experiential sciences	Work and knowledge and vocation	0.558*	0.208	0.049
4-executive affairs	Human sciences and literature	Work and knowledge and vocation	-0.448	0.106	0.001

As shown, there is a meaningful difference between human sciences and literature and experiential sciences in the first research question, between experiential sciences and work and knowledge and vocation in the second research question and between human sciences and literature and work and knowledge and vocation in the fourth research question (shown by \*). However, not any meaningful difference is seen in other cases.

### 5-4- Education office area

Table8. ANOVA test for education area											
Sig	F	Mean square	df	Sum of squares	Change sources Question						
< 0.0005	79.300	19.934	4	79.737	Between group	1-quality of material development					
		0.251	368	92.507	Within group	and course content					
			372	172.245	Total						
< 0.0005	160.245	27.557	4	110.228	Between group	2-quality on new education					
				0.172	368	63.284	Within group	technologies			
			372	173.512	Total						
< 0.0005	103.799	34.543	4	138.174	Between group	3-quality of issues related to					
						0.333	0.333	368	122.467	Within group	education
			372	2603641	Total						
< 0.0005	49.782	15.398	4	61.590	Between group	4-executive affairs					
		0.309	368	113.822	Within group						
			169	75.061	Total						

The difference between the mean of learners regarding their education office area is not meaningful in the first and third research questions because significant level is bigger than 0.05. Learners with different education area didn't have

similar opinions in fist and third research questions but, in question two and four, the mean difference is meaningful because significant level is less than 0.05 denoting that learners with different education area didn't have similar opinions in second and fourth questions. It should be noted that to know the meaningful difference between the groups, post-hoc Tukey test was run (table8). (Only non-repetitive results are shown).

Question	Area number 1	Area number 2	Mean difference	SD error	Sig
2-quality of new education technologies	West (9)	South (17)	-0.603*	0.214	0.042
4-executive affairs	North (2)	South (17)	0.432*	0.152	0.041
	Center (6)	West (9)	-0.577	0.163	0.005
	West (9)	East (14)	0.648	0.184	0.005
		South (17)	0.742	0.180	0.001

Table9. Post-hoc Tuckey test based for research questions based on education area

As shown, there is a meaningful difference in the second research question between west area(9) with south area (17). In the fourth research question there is a meaningful difference between north (2) and south (17), center (6) and west (9), west (9) and east (14) and between west area (9) and south area (17). However, there isn't a meaningful difference in other cases.

#### 4- CONCLUSION AND DISCUSSION

Based on the standards gained, the researcher evaluated education plans of high schools of Tehran considering learners' perspectives. So, material development and course content, new education technologies, education issues and executive affairs of distance education centers were evaluated (table 10)

Measurement range	Weighted average	Question
More than average	3.43	1-quality of material development and course content
Less than average	2.87	2-quality of used new education technologies
More than average	3.24	3-quality of issues related to education
Less than average	3.27	4-quality of executive affairs

Weighted average of the questions is 3.43, 2.87, 3.24 and 3.27. executive affairs such as the time and location of classes, education costs and rules of education had the highest average probably because they are more tangible for learners and because of this, it is easier for students to give their opinions. The cause low average of the used modern education technologies can be novice nature of these centers and not being equipped with the technologies which should lead to attracting more attention of authorities and encouraging teachers to use these technologies in teaching procedures. The present study was done regarding the previous research in this area and doesn't have homogenous results in some parts with the previous studies. Also, in some cases, due to different issues such as Iranian culture, it can't be compared fully.

The results of the first research question showed that the quality of material development and course content of distance education high schools of Tehran from learners' perspective was higher than the average level. Analyzing detailed questions of this question, it can be said that planners should try to present course contents on CDs and promote the use of electronic books and try to match the contents to learners' previous experiences and include their future needs and match the materials with students' real life regarding cultural differences. The last pint is encouraging and promoting teachers and enculturating them through holding in-service training courses to get familiar with how to approximate the materials and contents to students' real life. The results of this part of study regarding the authentic materials of the courses are to some extent in line with Talebzadeh and Hosaini[18] and Sadrian[5] studies.

The second research question showed that the quality of used modern technologies in distance education high schools of Tehran from learners' perspective is less than average level. A reason can be communication center to provide facilities such as bandwidth and internet services for students. The last reason can be enculturating the society to use practically these technologies more. The results of this part regarding the weak accessibility of learners to internet and ICT facilities is in line with Jamtsho et al., [15],Sadrian[5], Etezadi[6], Aqakasiri[19] andTaghvai[11] but is not to some extent in line with studies of McLinden et al., [17] because in this study, learners sued ICT technologies well and didn't have problems in using them.

The results of third research question showed that the quality of education issues of distance education high schools of Tehran from learners' perspective is higher than average level. Regarding the results and analysis of detailed questions of this question, it seems that distance education centers and planning stakeholders should focus their highest attention to equipping the libraries of these centers and develop students' access to them. Also, the relatively high mean of the question "teachers' interest to work in distance education centers" showed good trust of learners to teachers but, regarding other items, it seems that teachers should use more of lesson plans and pay more attention to troubleshooting

classes. In spite of considering variety in presenting contents, teachers should consider the variety of teaching plans in distance education. The last point related to education planners is that they should design the course contents in a way to highlight learning groups. The results of this research question are in line with Sadrian[5], but are to some extent in line with Hosaini [12], especially in learning groups and teaching methods where distance education stakeholders should pay more attention to group learnings.

The fourth research question showed that the quality of executive affairs in distance education high schools of Tehran is higher than the mean level. It can be sad that the cause of higher average weight of his question is due to tangibility and perceptibility of all items related to this part. Student may not understand some items related to quality of material development and course content and etc. regarding their philosophy but they answer this kind of questions measuring their satisfaction level. The results of this part on learners' satisfaction is largely in line with Pakideh and Rostaminejad[9] and Sadrian[5] but is not in line with Agha Kasiri's study [19] regarding the time of troubleshooting classes.

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