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ANALYZING ATTITUDE OF AGRICULTURAL STUDENTS AND TEACHERS REGARDING SITUATION OF EDUCATIONAL TECHNOLOGY IN AGRICULTURAL HIGH SCHOOLS OF KHOUZESTAN PROVINCE, IRAN

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ABSTRACT

The purpose of this research was analyzing attitude of agricultural students and teachers regarding situation of educational technology in agricultural high schools of Khouzestan province, Iran**.** This study carried out in the agricultural high schools of Ahwaz, Ramhormoz, Behbahan, Soosangerd and Shoushtar cities of Khuzestan province during January to December 2014. The research method was quantitative and causal comparative research. The total population of agricultural teachers (N_1=53) and senior students (N_2=800) of these cities considered as population of study. Total of teachers and 260 students based on Morgan table was considered as sample size. A questionnaire was developed to gather information regarding situation of educational technology in agricultural high schools of Khouzestan province, Iran. Questionnaire reliability was estimated by calculating Cronbach's alpha. Reliability was Cronbach's alpha=0.75. Data collected were analyzed using the Statistical Package for the Social Sciences ($SPSS_{21}$). Appropriate statistical procedures for description (frequencies, percent, means, and standard deviations) were used. For inferential section, Wilcoxon was used to analysis data. In inferential analysis, Wilcoxon signed ranks were used for analyzing causal comparative of educational technology between current and favorable conditions. Based on the results in each options and overall items there was significant differences between current and favorable conditions. This result there was in inferential analysis of teachers (Z=6.343, P=0.000) and students (Z=13.995, P=0.000) analysis.

Keywords: Agricultural Students, Agricultural Teachers, Educational Technology, High Schools

INTRODUCTION

Technology can aid in educational achievement through two primary methods: the removal of physical barriers to learning and the transition of focus from the retention of knowledge to its utilization. Each of these methods must be examined in the context of their relation to both the student and the instructor in order to see their value and effect in educational settings.

However, technology can assist students in the visualization of previously unfamiliar content in a manner which assists in learning. For example, multimedia presentations, which utilize multiple formats of media, such as images, narration, and text, can be used to assist students in concept visualization (Driscoll, 2007).

Richey (2007) defined educational technology as "the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources. The Association for Educational Communications and Technology (AECT) denoted instructional technology as "the theory and practice of design, development, utilization, management, and evaluation of processes and resources for learning (Lowenthal and Wilson, 2010).

Computer-based applications using visualization, modeling, and simulation have been proven to be powerful tools for teaching scientific concepts. The research literature abounds with successful applications that have enabled students to master concepts usually considered too sophisticated for their grade level (Gordin and Pea, 1995). For example, technology using dynamic diagrams—that is, pictures that can move in response to a range of input—can help students visualize and understand the forces underlying various phenomena. Involving students in making sense of computer simulations that model

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physical phenomena, but defy intuitive explanations, also has been shown to be a useful technique (Jeremy *et al.,* 2000).

Technology is an essential tool for learning and education of different sciences in the 21st century, and all schools must ensure that all their students have access to technology. Effective teachers maximize the potential of technology to develop students' understanding, stimulate their interest, and increase their proficiency in learning. When technology is used strategically, it can provide access to learning situation for all students (NCTM, 2008).

The purpose of this research was analyzing attitude of agricultural students and teachers regarding situation of educational technology in agricultural high schools of Khouzestan province, Iran**.**

MATERIALS AND METHODS

This study carried out in the agricultural high schools of Ahwaz, Ramhormoz, Behbahan, Soosangerd and Shoushtar cities of Khuzestan province during January to December 2014.The research method was quantitative and causal comparative research. In quantitative research, the researcher identifies variables and may look for relationships among them, but does not manipulate the variables (Gay and Airasian, 2003). The total population of agricultural teachers (N_1=53) and senior students (N_2=800) of these cities considered as population of study. Total of teachers and 260 students based on Morgan table was considered as sample size. A questionnaire was developed to gather information regarding situation of educational technology in agricultural high schools of Khouzestan province, Iran. Questions were generated from the literature review. The survey was divided into two sections to gather data on personal characteristics of students and teachers and the degree of current and favorable regarding educational technology. Responses for second section were categorized by using a Likert type scale from point 1 to 5 representing very low important to very high important respectively. Content and face validity were established by a panel of experts from faculty members. Questionnaire reliability was estimated by calculating Cronbach's alpha. Reliability was Cronbach's alpha=0.75, which can be regarded as sufficient. Data collected were analyzed using the Statistical Package for the Social Sciences ($SPSS_{21}$). Appropriate statistical procedures for description (frequencies, percent, means, and standard deviations) were used. For inferential section, Wilcoxon was used to analysis data.

RESULTS AND DISCUSSION

The first section was to describe agricultural teachers and students' demographic profile in Khuzestan province of Iran.

Table 1: The Age of Respondents

Age (Year)	*f*	%	
a)Agricultural teachers			
28-38	28	52.8	Mean=38.92
38-48	21	39.6	SD=6.807
48-58	24	7.5	Min=28
Total	53	100	Max=58
a)Agricultural students			
15	6	2.3	Mean=16.53
16	128	49.2	SD=0.665
17	107	41.2	Min=15
18	19	7.3	Max=18
Total	260	100	

The ages of the agricultural teachers ranged from 28-58 years old. The mean age was 38.92 (SD = 6.807, n = 53). The majority (52.8%, n = 28) of respondent were 28-38 years old. Also, the ages of the

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agricultural students ranged from 15-18 years old. The mean age was 16.53 (SD = 0.665, n = 260). The majority (49.2%, n = 128) of students were 16 years old (Table 1). Approximately 54% of teachers had a Master of Science degree level of education.

In the present study the respondents were questioned about the situation of educational technology of agricultural high schools in Khuzestan Province in current and favorable conditions, by 5- point scale (1=very low, 2=low, 3=moderate, 4=high, 5=very high). As Table 2 indicates, the four most important of educational technology options according to the agricultural teachers were: (1) Availability of the necessary educational software in schools (M= 4.52, Sd= 0.638), (2) There are video projector systems (M=4.52, Sd= 0.668), (3) There are electronic whiteboards (M= 3.98, Sd=0.988), (4) There are computer systems with high quality (M=3.98, Sd= 0.1.000), while in reference to the frequency of respondents about educational technology in overall, in current conditions 45.3% of teachers and 72.3% of students stated that the situation of educational technology had high and moderate conditions, respectively (Table 3).

Table 2: Current Situation of Educational Technology Options in Agricultural High School of Khuzestan Province

Educational Technology Options in Agricultural High School	Attitude of Agricultural Teachers (n=53)				Attitude of Agricultural Students (n=260)			
	Mean	**sd**	**CV**	**Rank**	**Mean**	**sd**	**CV**	**Rank**
Availability of the necessary educational software in schools	4.52	0.638	0.141	1	4.31	0.511	0.118	1
There are video projector systems	4.52	0.668	0.147	2	4.16	0.655	0.157	3
There are electronic whiteboards	3.98	0.988	0.248	3	4.16	0.618	0.148	2
There are computer systems with high quality	3.98	1.000	0.253	4	4.00	0.745	0.186	4
Daily use of educational technology resources	3.94	1.133	0.287	5	2.74	1.023	0.372	8
Suitable environmental conditions when working with educational technology facilities	3.75	1.343	0.375	6	3.85	2.99	0.776	10
Internet access	3.24	1.412	0.435	7	2.39	0.852	0.355	6
Appropriate number of computers to students	2.64	1.194	0.452	8	2.52	0.999	0.396	9
Teachers and students access to computers and the Internet	3.05	1.406	0.460	9	2.63	0.806	0.306	5
Availability of enough resources to buy equipment for Educational Technology	2.41	1.292	0.535	10	1.95	0.692	0.355	7

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Table 3: Current Situation of Educational Technology in Overall

Level of educational technology	Teachers		Students	
	Frequency	**Percent**	**Frequency**	**Percent**
Very low	0	0	0	0
Low	7	13.2	6	2.3
Moderate	15	28.3	188	72.3
High	24	45.3	66	24.5
Very high	7	13.2	0	0
Total	53	100	260	100

Table 4: Causal comparative between current and favorable conditions in educational technology in agricultural high school in Khuzestan province by Wilcoxon signed ranks based on teachers' attitude

Educational Technology Options in Agricultural High School

	Z	**Sig**
Availability of the necessary educational software in schools	3.740	0.000
There are video projector systems	3.552	0.000
There are electronic whiteboards	4.877	0.000
There are computer systems with high quality	4.357	0.000
Daily use of educational technology resources	4.283	0.000
Suitable environmental conditions when working with educational technology facilities	4.240	0.000
Internet access	5.293	0.000
Appropriate number of computers to students	6.084	0.000
Teachers and students access to computers and the Internet	5.767	0.000
Availability of enough resources to buy equipment for Educational Technology	6.151	0.000
Overall result	6.343	0.000

Table 5: Causal comparative between current and favorable conditions in educational technology in agricultural high school in Khuzestan province by Wilcoxon signed ranks based on students' attitude

Educational Technology Options in Agricultural High School

	Z	**Sig**
Availability of the necessary educational software in schools	12.209	0.000
There are video projector systems	12.270	0.000
There are electronic whiteboards	12.674	0.000
There are computer systems with high quality	12.206	0.000
Daily use of educational technology resources	13.661	0.000
Suitable environmental conditions when working with educational technology facilities	12.553	0.000
Internet access	14.053	0.000
Appropriate number of computers to students	13.953	0.000
Teachers and students access to computers and the Internet	14.084	0.000
Availability of enough resources to buy equipment for Educational Technology	14.260	0.000
Overall result	13.995	0.000

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In inferential analysis, Wilcoxon signed ranks were used for analyzing causal comparative of educational technology between current and favorable conditions. Based on the results in each options and overall items there was significant differences between current and favorable conditions. This result there was in inferential analysis of teachers (Z=6.343, P=0.000) and students (Z=13.995, P=0.000) analysis (Table 4 and 5).

Conclusion
For receiving favorability in educational technology in agricultural high schools of Khuzestan province of Iran, there is a need for reorientation in situation to improve it, but current situation of educational technology agricultural high schools of Khuzestan province in Iran does not has a sufficient competency for the achievement of educational needs. In inferential analysis, Wilcoxon signed ranks were used for analyzing causal comparative of educational technology between current and favorable conditions. Based on the results in each options and overall items there was significant differences between current and favorable conditions. This result there was in inferential analysis of teachers (Z=6.343, P=0.000) and students (Z=13.995, P=0.000) analysis (Table 4 and 5).

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