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Determining attitudes of postgraduate students towards scientific research and codes of conduct, supported by digital script

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Abstract

In this research, it is aimed to determine the effect of the attitudes of postgraduate students towards scientific research and codes of conduct, supported by digital script. This research is a quantitative study, and it has been formed according to pre-test & post-test research model of experiment and control group. In both groups, lessons were performed in the ways of distance education on the YDU-UZEM system and co-education. Besides, the experimental group was supported by digital scripts. Course materials have been shared through the system onto each group's own page. The distance education lessons were performed simultaneously and non-simultaneously. The simultaneous lessons were performed through Big Blue Button virtual class add-in, and non-simultaneous lessons were performed through chatting panel and integration of the recorded lessons onto the system in order to review the lessons whenever needed. In the both groups, there are 40 (80 in total) postgraduate students from the programs of the institutions of Near East University. The groups were designated, as a result of achievement test applied as a pre-test before the study, homogeneously in accordance with their school numbers with regards to success and gender; that the ones with school numbers of which last digits are odd number are the control group, and the ones with school numbers of which last digits are even number are the experimental group. In order to collect the required data, research-directed attitude scale was used after getting required permission. The obtained data were analyzed with appropriate analyzing techniques. With the findings acquired from this research, it is concluded that there is a meaningful difference in favor of the experimental group supported by the digital scripts after examining the both groups' attitudes towards scientific research and ethics.

Keywords: Co-education, Script-based/supported Education, Digital Script, Virtual Class, Searching Strategies.

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1. Introduction

Teachers of modern education displays positive behaviors towards the scientific research. Because this situation is necessary, there is included the lesson named “Scientific Research Methods” into curriculums of each department of Education Faculty. Thus, by increasing the future teachers’ readiness level related to the scientific research, it is aimed that the teachers will acquire positive attitude towards the scientific research (Korkmaz, Sahin and Yesil, 2011). In the research conducted by Yenilmez and Ata in 2013, they also reached the results supporting this research. As a result of their research, they stated that the teacher candidates studying at the Education Faculty have positive attitudes towards scientific research.

In another study, attitudes of undergraduate students from education faculty towards postgraduate education were analyzed according to their programs; and there was found a meaningful difference in extent of desire while there was not found any meaningful difference in extent of function. It was concluded that the students studying in Turkish Language Teaching Department do not think the postgraduate education so functional. On the other hand, it was detected that the students studying in Classroom Teaching Department do think the postgraduate education as functional but they do not have any desire for it (Turer, Balçın, Sevindik & Er, 2013).

The academic fraud including cheating and plagiarism is seen from the first step of the education process to the last one (from primary school to undergraduate and postgraduate education). This behaviour we often come across with is accepted as something normal by the students in every stage of the education. In order to prevent this kind of behaviours, it is important to detect firstly the students who tend to display this kind of behaviours (Eminoglu & Nartgun, 2009).

It has been discovered through various researches that resorting to plagiarism in scientific studies is related to educational background of the students’ families. In the research conducted by Eminoglu and Kucuktepe (2012), it was found that the higher educational background a father has, the more the possibility for resorting to plagiarism increases. In another research carried out by Eminoglu and Kucuktepe in 2011 about a similar subject, it was discovered again that the higher educational background a mother has, the more the possibility for resorting to plagiarism increases.

In the study conducted by Ozder, Isiktas and Erdogan TRNC in 2014, it was found that the instructors are not aware of some of their behaviours inconsistently with scientific publication ethics; and the education of ethics applied in postgraduate and doctorate educations is not sufficient. Thus, the researchers stated that there should be organized different education programs (such as attending to courses – in-service trainings etc.), or there should be organized educational seminars about the ethics within the universities.

Developments and changes in technology have affected scientist in a positive or negative way. If we talk about the positive effects, we can cite that we had to spend much time in the libraries when we wanted to research about something. Also, because the sources so old fashioned, the efficiency and the validity of the study we wanted to do were affected directly. However, after the technology and the computers have been developed so rapidly, all these issues have been disappeared. On the other hand, there have been negative effects of the technology. For instance– -the most effective example of today’s World- the unethical behaviours... It is possible to come across with lots of unethical behaviours in the researches to be done. When we review the literature, it is seen that there are quite few studies conducted in Turkey and TRNC with the aim of preventing this situation.

2. Aim of The Research

The aim of this research is to detect whether there is any difference between the attitudes of the experimental group who study in coeducation system supported with digital script and the attitudes of the control group who study in coeducation system towards pre-test & post-test scientific research.

3. Method

3.1. Study Group

The study group of this research is composed of the students (postgraduate or doctorate student) studying at Near East University. The ones in the study group are the volunteer students from different programs. Moreover, it was required for the students participating in the study group to make any scientific research previously (thesis, article or assertion) and to take the lesson of Methods of The Scientific Research. There were 40 postgraduate students (80 in total) in both the experimental group and the control group. The students were designated to the groups in accordance with their school numbers; that the ones with school numbers of which last digits are odd number are the control group, and the ones with school numbers of which last digits are even number are the experimental group. As a result of the pre-test applied at the beginning of the study, it was determined that the study is homogeneous in terms of the success and the gender.

3.2. Development of The Educational Environment

The research was carried out through Distance Education Center of the Near East University (Moodle) by forming different systems for he both groups. For the both groups, Big Blue Button virtual class, sharing the lecture notes, sharing the videos which were on the Moodle system were applied; besides, the digital scripts prepared for the experimental group were also applied.



Figure 1. Sharing of the digital scripts on the course system (NEU-DLC, 2015)

3.3. Application

The application completed in exactly 9 weeks. All the materials about the course were delivered through "the Course of Scientific Research and Ethic Rules in Educational Administration" created on the YDU-UZEM system (Moodle). Environment of the control and the experimental groups were separated by different access areas, and everyone could enter to their own group systems. The students' from both groups status of following the lessons was monitored through the Moodle system, and the hours of students' being in and out were kept under control. Also, the same method was used to keep the ins and outs under control in order to observe the Digital Scripts applied to the experimental group. File sharing, Big Blue Button virtual class, adding the online lecture videos in order to provide reviewing whenever the students want, sharing various video links added onto the YouTube and also, links of the digital scripts added onto the YouTube for the experimental group were

shared as tags through 2.0 tools within the system. For the online lectures, most of the features of the Big Blue Button virtual class were used. The features such as being able to see and to underline the files shared, white-boarding and communicating via instant messaging voiced or written were used actively. Thus, there was occurred a chance to ask questions to both the lecturer and other students. Furthermore, online lessons were added onto the system in order to be recorded and to be reviewed by the students whenever they want. The feature of messaging and informing non-simultaneously through the chatting panel added non-simultaneously was also used. Deliver of project was done through e-mail.

3.4. Data Collection Tool

In order to see whether there is any meaningful difference in the attitudes of the postgraduate students from the experimental and the control groups towards the scientific research before and after the study, “the Attitude Scale for The Scientific Research” developed by Korkmaz, Sahin and Yesil in 2011 was used. The scale is composed of 30 questions and 4 extents in total. There are 8 items under the extent named “Reluctance to Assist The Researchers”; 9 items under the extent named “Negative Attitude Towards The Researches”; 7 items under the extent named “Positive Attitude Towards The Researches”; and 6 items under the extent named “Positive Attitude Towards The Researchers”. When looked to the reliability according to the extents, it is seen that the Cronbach alpha value of the extent named “Reluctance to Assist The Researches is .851; of the extent named Negative Attitude Towards The Researches is .814; of the extent named Positive Attitude Towards The Researches is .802; and of the extent named Positive Attitude Towards The Researchers is .765.

Table 1. The comparison results of attitudes of the experimental and the control groups towards the scientific research.

Attitude Towards The Scientific Research		N	Experimental		Control		F	P	Explanation
			\bar{X}	SS	\bar{X}	SS			
Reluctance to Assist The Researchers	Pre-test	40	3.62	.43	3.63	.58	5.277	.024	P<0.05
	Post-test	40	2.91	.39	3.21	.55			
Negative Attitude Towards The Researches	Pre-test	40	3.78	.30	3.74	.66	7.413	.008	P<0.05
	Post-test	40	2.20	.49	2.73	.80			
Positive Attitude Towards The Researches	Pre-test	40	3.33	.46	3.31	.41	11.074	.001	p<0.05
	Post-test	40	4.28	.45	3.75	.59			
Positive Attitude Towards The Researchers	Pre-test	40	3.07	.45	3.08	.62	10.197	.002	P<0.05
	Post-test	40	4.19	.48	3.68	.64			

4. Findings

In this section, we mention about the comparison results –according to the groups- of attitudes of the students from the experimental and the control groups towards the scientific research. In order to detect if there is any difference between both groups, Repetitive Measurements Anova Test was used. At the beginning of the research pre-test was used; and at the end of the research post-test was used. The findings obtained from the research are given the Table below.

As it is seen in Table 17, means of pre-test and post-test of the control and the experimental groups for each extent of the attitude scale for the scientific research, composed of 4 extents, were given.

If we take a look to the extent of Reluctance to Assist The Researchers, it is seen that there was positive change in the post-test scores of each group; however, there was a meaningful difference statistically in favor of the experimental group supported with the digital scripts ($F_{1,78}=5.277$, $p<0.05$). Besides, while average scores of the students from the experimental group was $\bar{X}=3.62$ ($SS=.43$) before the course, they became $\bar{X}=2.91$ ($SS=.39$) after the course. In the extent of Reluctance to Assist The Researchers of the student from the control group, there is seen a difference before and after the course. While average scores of the students from the control group were $\bar{X}=3.63$ ($SS=.58$) before the course, they became $\bar{X}=3.21$ ($SS=.55$) after the course.

In the extent of reluctance to assist the researchers, there have been seen differences between the answers of the students before and after the course such as; "I do not want to assist the scientific researches because there are unnecessary questions in the data collection tools." ($\bar{X}_0=3.56$, $\bar{X}_5=2.70$), "I do not want to assist the scientific researches because I think that any of our views would not be taken into consideration." ($\bar{X}_0=3.59$, $\bar{X}_5=2.27$), "I do not want to assist the scientific researches because I think them as waste of time." ($\bar{X}_0=3.78$, $\bar{X}_5=3.20$).

According to the findings obtained, we can say that the students from the control and the experimental groups had reluctance to assist the researchers before the study; however, there has been decrease in this reluctance after the study. It is seen that especially the experimental group supported with the digital scripts display more positive attitudes about assisting.

When the negative attitudes of the students towards the researches are analyzed, it has been seen that there was a positive change in the post-test scores of the students from both groups after the study; yet, there has been seen a meaningful difference statistically in favor of the experimental group supported with the digital scripts ($F_{1,78}=7.413$, $p<0.05$). On the other hand, while the average scores of the students from the experimental group were $\bar{X}=3.78$ ($SS=.30$) before the course, they became $\bar{X}=2.20$ ($SS=.49$) after the course. When taken a look to the extent of negative attitudes of the students from control group towards the researches, there is seen a difference in their average scores before and after the course. While the average scores of the control group were $\bar{X}=3.74$ ($SS=.66$) before the course, they became $\bar{X}=2.73$ ($SS=.80$) after the course.

And in the extent of negative attitudes towards the research, there has been decrease in the negative attitudes in general. Particularly, there has been seen decrease in the statements such as; "The researches which are not concluded in a short time are unnecessary researches." ($\bar{X}_0=4.03$, $\bar{X}_5=2.68$) and "Scientific researches do not catch my attention because I do not think them as realistic." ($\bar{X}_0=3.98$, $\bar{X}_5=2.45$).

According to the findings obtained, it can be said that there has been a positive change in the negative attitudes of the students from both groups towards the researches.

When it is analyzed whether the positive attitudes towards the researches do change or not, it is seen that there has been a positive increase in the average scores of pre- and post-tests of the students from both groups after the application; however, there is seen a meaningful difference statistically in favor of the experimental group supported with the digital scripts ($F_{1,78}=11.074$, $p<0.05$). On the other hand, while the average scores of the students from the experimental group were $\bar{X}=3.33$ ($SS=.46$) before the course, they became $\bar{X}=4.28$ ($SS=.45$) after the course. When taken a look to the extent of positive attitudes of the students from control group towards the researches, there is seen a difference in their average scores before and after the course. While the average scores of the control group $\bar{X}=3.31$ ($SS=.41$) before the course, they became $\bar{X}=3.75$ ($SS=.59$) after the course.

In the extent of positive attitudes towards the researches, the students state positive views in general; the difference especially in the statements "I would like to carry out scientific researches if I am given any chance." ($\bar{X}_0=3.03$, $\bar{X}_5=4.19$) and "I would like to give a hand to the ones who conduct scientific researches." ($\bar{X}_0=2.84$, $\bar{X}_5=4.03$) is quite a lot.

According to these findings obtained, it is determined that the experimental group students supported with the digital scripts have displayed more positive attitude towards the research after the study.

When it is analyzed whether the positive attitudes towards the researchers do differ according to the groups or not, it is seen that there has been a positive increase in the average scores of pre- and post-tests of the students from both groups after the application; however, there is seen a meaningful difference statistically in favor of the experimental group supported with the digital scripts ($F_{1,78}=10.197$, $p<0.05$). On the other hand, while the average scores of the students from the experimental group supported with the digital scripts were 3.07 ($SS=.45$) before the course, they became $\bar{X}=4.19$ ($SS=.48$) after the course. When taken a look to the extent of positive attitudes of the students from control group towards the researchers, there is seen a difference in their average scores before and after the course. While the average scores of the control group $\bar{X}=3.08$ ($SS=.62$) before the course, they became $\bar{X}=3.68$ ($SS=.64$) after the course.

And in the extent of negative attitudes towards the research, there has been displayed the positive attitudes in general. Especially, the differences in the statements "Scientist is a person who has powerful foresight." ($\bar{X}_0=2.86$, $\bar{X}_S=3.96$), "Scientist is a person who is always open to develop to improve himself/herself." ($\bar{X}_0=2.96$, $\bar{X}_S=4.09$) and "Scientist does never act incongruously to the codes of conduct by any means." ($\bar{X}_0=3.37$, $\bar{X}_S=4.03$) are really remarkable.

According to these findings obtained, it is seen that the experimental group students supported with the digital scripts have displayed more positive attitude towards the researchers after the study.

There are studies with both supporting and more different results from the findings of this research in the literature. In his research, Saracoglu (2008) detected that the postgraduate students have positive attitudes towards the researches. Unlike these researches, in their research, Yenilmez and Ata (2012) stated that the teachers have neutral attitudes towards the researches. Again in this study, it was concluded that there is a meaningful difference between the students who take the methods of scientific research lesson and the students who do not take this lesson.

5. Result and Discussion

At the end of the study, when the attitudes of reluctance to assist the researchers are analyzed, it has been determined that the attitudes of the students from both groups have improved positively; however, the experimental group supported with the digital scripts has had more positive attitudes compared to the control group.

Another result acquired from the study is that the negative attitudes towards the researches have decreased after the course. According to this result, it has been determined that attitudes of both the experimental group having education supported with digital scripts and the control group having co-education towards the researches have improved positively; however, there is a meaningful difference in the experimental group supported with the digital scripts. When the positive attitudes towards the researches are analyzed, it is detected that there is positive improvement in both groups after the study; yet, there is a meaningful difference in the experimental group supported with the digital scripts. When the positive attitudes towards the researchers after the study are analyzed, it has been determined that the attitudes of the both groups have improved positively; however, the experimental group supported with the digital scripts has been more positive than the control group. If to sum up the attitudes of the students towards the researches and the researchers, it has been detected that the students who had more negative attitudes before the study have had more positive attitudes towards the researches and the researchers after the study.

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