



The Effect of Active Learning Approach on Attitudes of 7th Grade Students

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Active learning is a student's active impact on learning and a student's involvement in the learning process which allows students to focus on creating knowledge with an emphasis on skills such as analytical thinking, problem-solving and meta-cognitive activities that develop students' thinking. The main purpose of this study is to determine whether there is a significant difference in teaching science class between the average attitude scores of active learning group and those of traditional learning group. "Pretest-posttest control group design" has been used within the study. The subjects of the groups have been 7th grade students in spring term of 2015-2016 school year in Melahat Unugur Secondary School in the city centre of Eskisehir. Two similar classes have been formed by analysing average scores from pretest and pre-attitude and 7-C and 7-D classes have been randomly selected as experimental and control groups, respectively. While the education program and course materials have been prepared and utilised with regard to active learning method in the experimental group, traditional method has been used in the control group. There has been a significant difference between experimental and control groups in favour of experimental group at the end of the study.

Keywords: active learning, attitude, student-centred learning, learning environment, traditional learning

INTRODUCTION

Active learning is not a new concept. The roots of active learning can be traced back to Confucius (551-479 BC), who stated, "I hear and I forget. I see and I remember. I do and I understand". Socrates (470-399 BC) had similar views when he said that "I cannot teach anybody anything. I can only make them think" (Naithani, 2008). Pestalozzi in 1801 envisioned schools as homelike institutions where teachers actively engaged students in learning by sensory experiences through engagement in activities (Education Encyclopedia, 2011). John Dewey and many others thought of it long before I did. For over fifty years, educators in the social studies field have been advocating

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active learning in the classroom. Dewey (1938) argued that “there is an intimate and necessary relation between the processes of actual experience and education”. Effort has been made to engage students in active learning (Goldberg, et al., 2010). MacKenzie and White (1982) found that students who had processed their own information on the field trip showed marked superiority in retention of knowledge over the field-trip students who were given information by the teacher.

When you observe most social studies classrooms today, probably you see a teacher lecturing and students listening (or pretending to listen) and taking notes.

The difficult thing with teaching an active learning lesson is that you are sort of locked into covering a certain amount of time and it is very difficult to focus on any one topic for any length of time and so you deal with things so superficially. Other strains of teaching with active learning are difficulties in controlling students and the noise. Active learning is anything course-related that all students in a class session are called upon to do than simply watching, listening and taking notes (Sabag and Kosolapov, 2012). Turkey has been known for its achievements in educational reform over the past three decades. Radical changes occurred in education programs due to the modifications and new practices imposed by the Ministry of National Education in 2005, the body which is responsible for primary, secondary and high schools in Turkey. These reforms modified the content and practices of programs by emphasising student-centred learning. Thus, a new framework of flexible educational programs aiming to enhance pluralism, originality and differences in learning has started to replace the traditional educational approach designed to teach adaptation and compliance. Following the new approach and based on the idea that the learner constructs knowledge, teachers had to take on additional roles of guiding and facilitating learning so it could become active learning (Aksit, 2007; Niemi and Nevgi, 2016). Active learning has received considerable attention over the years. Active learning was often presented as a radical change from traditional instruction (Prince, 2004). Active learning is a learning approach in which students take over their learning responsibility, alternative assessment and evaluation methods are used, effective learning is taken place at the end of the process and students are active in every step of the learning process. (Demirci, 2006; Celik, Genocak, Bayrakceken, Taskesenligil and Doymus, 2005).

Active learning is not an inert type of learning in which successful students are caught on while unsuccessful ones are eliminated, memorizing and passive listening is in the forefront, and knowledge is limited to only educational environment. On the contrary, active learning is a dynamic type of learning where students intensely interact with each other, with education materials, and with teachers. Within this type of learning, each student is exclusively paid attention. Active learning approach also enables knowledge formation and holds students at the centre of learning activities as research, observation and problem solving and thus holding students at the centre of education process (Talaz, 2013).

Active learning is a student’s active impact on learning and a student’s involvement in the learning process which allows students to focus on creating knowledge with an emphasis on skills such as analytical thinking, problem-solving and meta-cognitive

activities that develop students' thinking (Niemi 2002; Rotgans and Schmidt, 2011; Niemi and Nevgi, 2014).

Bates and Townsend (2007) noted that the transformation of schools depends on the transformation of teachers. All learning activities are active in some sense, but active learning refers to the level of engagement of the student in the instructional process. An active learning environment requires students and teacher to commit themselves to a dynamic partnership in which both share a vision of responsibility for instruction. In such an environment, students learn content, develop conceptual knowledge, and acquire language through a discovery-oriented approach to learning in which the learner is not only engaged in the activity but also with the goal of the activity. Essential to this approach is the view of the learner as responsible for discovering, constructing and creating something new and the view of the teacher as a resource and facilitator. In an active learning environment the students gain a sense of empowerment because the content presented and ideas discussed are relevant to their experiences and histories. For example, the teacher presents a list of thematic units to the students who then decides what aspects of the themes they wish to investigate and which activities will allow them to pursue that theme. Active learning approach involves giving students full support in their activities and empowers the teachers to make decisions and takes a leadership role. This approach also incorporates the home and community in planning and carrying out the activities and explains the goals of active learning to parents and help them understand the rationale behind what their children do in school in an active way. Active learning informs parents explicitly about ways in which they can help their children learn and assist the school. Active learning opens up the school to the community. Active learning derives its theoretical basis from the situated cognition theorists such as Paulo Freire, whose main pedagogical philosophy revolves around the idea that instruction is most effective when situated within a student's own knowledge and world view. Thus the student's culture and community play a significant role in learning. L.S. Vygotsky's 'zone of proximal development' theory supports the idea that students learn best when new information presented is just beyond the reach of their present knowledge (Fern, Anstrom and Silcox; 1995). Active learning aims at an optimal blend of knowledge and skills. Active learning provides a license to the student for driving successfully through the maze of unknowns on their own. That's why, active learning is not passive learning (Naithani, 2008).

Studies show that classroom attention-span of students varies from 15 to 25 minutes. The attention of students is at its highest during the first fifteen minutes of a class and the most learning is achieved during this period. After this period, students start to get bored and therefore, both the attention-span and learning ability decreases (Bligh, 1972 as cited by Cashin, 1985; Meyers and Jones, 1993; Berk, 2003).

All these facts stress on the need of active learning environment in particular when, feedback from students has shown that passive lecture in better education is not a preferred method of learning. (Sander et al., 2000 as cited by Huxman, 2005) The biggest roadblock is a creation of the instructor himself and that is fear of failure, fear of loss of control due to enhanced classroom discussion, fear of lack of student

participation, and fear of criticism of a new method. (Bonwell, C. and J.Eison, 1991) Kane (2004) alluded to both behavioural and cognitive elements in his description of active learning as fostering autonomous learners to think critically and take responsibility for their own learning, and to teachers providing more ‘‘open-ended activities’’ to promote a less passive view of education. Skinner (2010) maintained that there were three dimensions of active learning, namely, active engagement in learning (but not necessarily on a physical level), experiential learning and cognitive engagement exhibited through choice and direction of learning (Drew and Mackie, 2011). Machemer and Crawford proposed that active learning is ‘anything that is more than passive listening’, and they emphasised the social dimension so that while active learning is ‘doing’, and co-operative learning is ‘doing with others’. In contrast to Machemer and Crawford (2007), however, Bonwell and Eison (1991) asserted that active learning is more than just listening and emphasised the development of higher-order thinking skills, such as analysis, synthesis and evaluation.

Despite these advantages and opportunities provided by active learning approach, it is observed that this type of learning is not commonly used in Turkey. The possible reasons of this situation could be that active learning approach is not made use of in teacher training, prospective teachers are not active learners in educational processes and teachers do not have enough knowledge, know-how and experience about active learning approach (Tas, 2005).

The main purpose of this study is to determine whether there is a significant difference in teaching science lesson between the average attitude scores of active learning group and those of traditional learning group. It is thought that the techniques and methods used in science lessons could have an effect on the attitudes of students towards science lesson. Science education has an important place all over the world; however, although it is also important in Turkey, the science education and its failures have been discussed for years. It is of much importance for students to have a positive attitude towards and a strong lifelong interest in science education and therefore, the attitude of students towards science education could be positively changed by applying different teaching methods and techniques. It is possible for students having positive feelings towards science education from early ages to like science education later in their life. For this reason, this study is of significance in that it argues the attitude of students towards science lesson could be positively changed through different methods and techniques in an environment formed with active learning approach. Furthermore, it is believed that this study will help to enhance the quality of education and give teachers new ideas about methods and techniques they could apply in classroom. Besides, the study is essential in terms of being one of the studies revealing the effectiveness of active learning approach and having been carried out in real science lessons. This study is thought that it will make a contribution to the literature and lead up to new studies.

METHOD

Research Design

‘‘Pretest-posttest control group design’’ has been used for the study. The first step within this design is to randomly assign subjects from a pre-determined pool and divide them

into two groups as control and experimental (treatment) group in a randomized way. Then the subjects from two groups are measured in terms of dependent variable before treatment. Experimental group is given the treatment being tested in terms of effectiveness while the control group receives placebo.(Büyüköztürk et al., 2009). In other words, the control group is not intervened in any way and while students continue their formal teacher centred instruction, students in the experimental group proceed their learning activities through the treatment being tested in terms of effectiveness (Erözkan, 2007).

Study Groups

Since the study is of experimental type, neither a population nor a sample has been assigned. The subjects of the groups have been 7th grade students in spring term of 2015-2016 school year in Melahat Unugur Secondary School in the city centre of Eskisehir. Two similar classes have been formed by analysing average scores of students from pretest, pre-attitude and report cards of first term of 7th grade and 7-C and 7-D classes have been randomly selected as experimental and control groups, respectively. While the education program and course materials have been prepared and utilised with regard to active learning method in the experimental group, traditional method has been used in the control group. The same teacher instructed to the two groups.

Table 1
Distribution of students in terms of educational level of parents

Educational level of mother	f	%	Educational level of father	f	%
Post-Graduate	6	15		16	40
Under-Graduate	24	60		16	40
High School	6	15		7	17.5
Primary School	4	10		1	2.5
Total	40	100		40	100

As seen in Table 1, 15% of the mothers of the students participating in the study are postgraduate, 60% are undergraduate, 15% are high school graduate and 10% are primary school graduate. As none of the students has selected 'illiterate' option for their mother, this option has been removed. As regards the education level of fathers, 40% are postgraduate, 40% are undergraduate while 17.5% are high school graduate and 2.5% is primary school graduate. There are no students whose father is illiterate.

Table 2
Distribution by gender of the students in experimental and control group

Groups	n	%	Female (n)	%	Male (n)	%
Experimental	20	50	11	0.55	9	0.45
Control	20	50	12	0.55	8	0.45
Total	40	1.00	23	0.55	17	0.45

As seen Table 2, the total number of students in both experimental and control groups is 40. Of 20 students in the experimental group, 11 is female (0.55) and 9 is male (0.45) while of 20 students in the control group, 12 is female (0.55) and 8 is male (0.45).

According to these data, it could be stated that the number of students and the distribution by gender in both the experimental and control group is equal to each other.

Students have been applied science lesson achievement test as the pretest. The Normality Analysis of Shapiro-Wilk has been carried out to check whether the experimental and control groups show a normal distribution in the pretest. The normality test is of importance in that it is useful in determining the test to be used in the research. The results of normality test have been given in Table 3.

Table 3

Normality analysis of achievement test of science class according to the pretest results of experimental and control groups

Groups	Shapiro-Wilk Statistic	df	p
Experimental	.935	20	.268
Control	.683	20	.582

As seen in Table 3, the p values of Shapiro-Wilk normality test are greater than 0.05 ($0.268 > 0.05$, $0.582 > 0.05$), therefore, parametric tests should be carried out. For this reason, independent t test has been carried out in the comparison of the groups. The results of this test have been given in Table 4.

Table 4

Findings related to pre-test scores of the groups

Groups	Question No	n	\bar{x}	Ss	t
Experimental	24	20	9.08	4.17	.380
Control	24	20	8.35	4.30	

$p=.702$ $p>.05$

The total average pre-test scores, as seen in Table 4, is 9.08 for the experimental group and 8.35 for the control group. In order to test the significance of difference between the total average pre-test scores of the groups, t-test has been carried out. The observed .380 "t" value and .702 p value related to the average pre-test scores has not been found significant at the 0.05 significance level. The two groups could be said equal to each other in terms of average pre-test scores.

Scale of Attitude towards Science Lesson has been applied to the experimental and control groups before beginning the experimental study. With the aim of determining the tests to be used to compare the results, normality test has been carried out as a first step. The results of Shapiro-Wilk Normality Test have been given in Table 5.

Table 5

Normality analysis of Scale of Attitude towards Science Lesson according to the pre-attitude results of experimental and control groups

Groups	Shapiro-Wilk Statistic	df	p
Experimental	.950	20	.475
Control	.962	20	.620

Table 5 shows that the p values of Shapiro-Wilk normality test are greater than 0.05 (0.475 > 0.05, 0.620 > 0.05). This result is an indicator of the possible use of parametric tests. When the average attitude scores of experimental and control groups are analysed, it is observed that the average of control group is 2.13 point higher than that of the experimental group. In order to check whether this difference between the two groups is significant, t test in independent sampled has been applied and the results have been given in Table 6.

Table 6
Findings related to pre-attitude scores of the groups

Groups	n	\bar{x}	Ss	t
Experimental	20	132.05	18.20	.380
Control	20	134.18	16.70	

p=.129 p>.05

The total pre-attitude score average of the experimental group and the control group is 132.05 and 134.18, respectively. T-test has been carried out on free groups in order to test the significance of the difference between the two groups. The observed 1.420 “t” value, and 78 degree of freedom has not been found significant at 129 p value and the 0.05 significance level. The two groups could be said equal to each other in terms of pre-attitude scores.

Learning environment of experimental group

The most important factor of active learning approach is learning environment. Within this approach, various learning environments are created in which students could improve their skills and individual differences are considered. There are such important factors to be taken into consideration while creating the learning environment as curriculum, tools and materials, size of classroom, seating arrangement, skills and abilities of students, time, and physical environment (Çalışkan, 2005).

Classroom layouts in active learning could be U-shaped, teamwork style, conference table, circular, group-in-group, and auditorium. The U-shaped seating arrangement is suitable for multiple uses where students can see each other’s face while reading or writing and do pair-work. In teamwork seating, the tables are arranged in circular shape or one long table is positioned into the middle of the classroom, which improves interaction within the class. Chairs are placed around the table to create a warm atmosphere and students have the opportunity to see the front of the classroom by moving their chairs. Conference table style is created by bringing together square or rectangular tables. In this arrangement, if the teacher sits at the head of the table, then this arrangement is perceived as having a kind of formality. If the teacher sits at the long side of the table, the students at the other edges of the table feel themselves worthless. In the circular seating arrangement, students sit on their chairs in circular form without their tables or desks which enables them to see each other’s face that is good for face-to-face interaction. In this arrangement, students are sometimes asked to arrange their chairs in order to form multiple sub-groups. If a group discussion is going to be done,

they are asked to position their chairs around. Within group-in-group seating arrangement, a table is positioned into the middle of the classroom and chairs are located around in circular groups. The auditorium seating arrangement requires that chairs are located in spring shape thus enabling warmer environment and larger vision space. If the seats are fixed, the students are asked to sit more closely to each other (Demirci, 2006).

There are many strategies for active learning approach and the ones selected for this study are identifying the subjects known or wanted to be known, inviting to share a new experience, asking motivating questions, asking for conclusion sentence, telling the wanted answers in chorus, polling, talking or passing-over, asking to a classmate. The main goal for identifying the subjects known or wanted to be known is to determine the level of knowledge of students about a subject that they know and other details they want to know while preparing them for study or before beginning the lesson. Asking students what they want to learn is a kind of effort with the aim of satisfying their curiosity about something. The teacher may add the suitable questions into the subjects that are going to be taught or hang them somewhere in the classroom to later mention about them. Alternatively, the teacher may turn the questions into individual or group projects. Furthermore, the curiosity of a student may trigger that of others. The purpose of sharing a new experience is to gather the attention of students and create a healthy classroom environment. Students share their new or past experiences with classmates. The teacher may ask for volunteers eager to share a new or interesting experience and should accept any idea or experience on any subject and thank to the student. The main goal here is to provide students the opportunity of sharing their interesting, sad or happy experiences with their classmates, even it lasts for several minutes. This strategy gathers all the students' attention and enables students to concentrate on the class. Starting the lesson by asking motivating questions let students brainstorm over a subject since it is easier to go on the lesson when students are all ears. Within the asking for conclusion strategy, there are cards on a corner of the classroom written 'I learned that...' on. Students write such sentences on these cards as;

I learned that in this lesson.

It was a big surprise for me to learn that in this lesson.

After all I learned in this lesson, I start to wonder

The subjects I learned in this lesson made it possible for me to discover

I think I disagree with

Now I understand that I want learn much about

I think, after this lesson,

To sum up,

Students write down their conclusion sentences into their self-learning-logs. Students are not expected to learn a subject equally.

The strategy of telling the wanted answers in chorus is composed of writing all the subjects on cards and saying them in chorus. This strategy invigorates the class and is a kind of encouragement and motivation for students.

Within the polling strategy, students evaluate the learning process and products by raising hands and talking at the end of the class. Such questions are asked to students in order them to evaluate the class:

“How many of you have increased your level of knowledge? How many of you have reached the solution through the method I taught?”

The questions used by the teacher increases participation to the class: Instead of “Are you ready for the class?”, “How many of you are ready for the class” could be preferred.

Likewise, instead of asking “Do you agree with Ayse?”, this question could be changed as “How many of you agree/disagree with Ayse?”.

Talking or passing over strategy requires many students to take the floor and talk. The teacher may trigger the students by saying “Let’s begin with the ones sitting near the window. When the turn is yours, you may either talk or give the turn to your classmate by saying ‘pass me over’”. This strategy could be used for either the whole class or just a section of the class and is particularly useful when the question has multiple answers.

The purpose of asking to a classmate strategy is to increase the inter-student support and save time and energy for the teacher. Upon the questions of students as “On which page are we?” or “Could you please repeat the homework?”, the teacher may direct the student to ask his/her classmate. Through this way, the teacher’s load eases off and the interaction between the students increases.

Instrument

The effect of active learning approach on the students’ attitude towards science lesson has been measured by the Scale of Attitude towards Science Lesson developed by Demirci (2003). This scale is composed of two sections: the first one is about personal information of students while the second one is the items of attitude towards science lesson. The section about personal information forms the variables of the scale and these variables in the first stage of the scale are gender and education level of mothers and fathers. The reliability of the scale is .92. The reliability of the scale has been re-calculated for this study and the Cronbach alpha coefficient of reliability has been found as 0.90 and this coefficient has been thought adequate for an attitude scale. Preliminary tests for the scale has been carried out at Dr. Mustafa Camkoru Secondary School.

The scale of attitude is of Likert-type and is composed of 32 items, 16 of which positive and 16 of which negative. The scale has been given to the experimental and control groups both before and after the treatment.

The scale uses a 5-point grading scale whose answers varies from “strongly agree” to “strongly disagree”. The method of scoring for positive items is ‘Strongly Agree:5, Agree:4, Neither Agree nor Disagree:3, Disagree:2, Strongly Disagree:1’ while the method for negative items is ‘Strongly Agree:1, Agree:2, Neither Agree nor Disagree:3, Disagree:4, Strongly Disagree:5’. The total score of attitude for each student is the sum of marked choices. The students have been assumed to reflect their real opinions while replying to the scale of attitude. It is supposed that uncontrolled variables equally affect both groups.

FINDINGS

This part of the study has been allocated to the findings from the obtained data and the relevant comments. The purpose of the study is to determine whether there is a significant difference between the average scores of post-attitude towards science lesson of the experimental group that has been applied active learning approach and of the control group applied traditional learning method.

Findings related to attitude scores of experimental and control groups after the experimental study

Normality test has been carried out in order to determine the test to be applied to evaluate the values of attitude scores of both the experimental and control groups after the experimental study. The results of Shapiro-Wilk normality test of experimental and control groups have been given in Table 7.

Table 7

Normality analysis of the scale of attitude towards science lesson in terms of posttest results of experimental and control groups

Groups	Shapiro-Wilk		
	statistic	df	p
Experimental	.945	20	.358
Control	.905	20	.062

The p value of the experimental and control groups is greater than 0.05 ($0.358 > 0.05$, $0.062 > 0.05$) and this result indicates that parametric tests are going to be used in the posttest analysis of the scale of attitude towards science lesson of the experimental and control groups. T test has been carried out in the posttest of the experimental and control groups in terms of attitude evaluation. The comparison of post-attitude scores of the experimental and control groups which do not have a significant difference in pretest in between has been given in Table 8.

Table 8

Averages, standard deviations and t-values of post-attitude scores of the groups

Groups	n	\bar{x}	Ss	t
Experimental	20	150.12	11.25	4.800
Control	20	136.17	16.27	

$p = .000 < 0.05$

According to Table 8, it is observed that the average post-attitude scores of the experimental group and the control group is 150.12 and 136.17, respectively. T-test has been carried out on free groups in order to test the significance of the difference between the total average post-attitude scores. The observed 4.800 “t” value has been found significant at 0.00 p value and the 0.05 significance level. This difference proves that the active learning approach has positively changed the perspective of students about the science lesson.

The experimental and control groups that do not have a significant difference in pretest has differed significantly in posttest. The average score of the experimental group has increased to 150.12 from 132.05 while that of the control group has increased to 136.17 from 134.18. The attitude score of the experimental group has shown a significant difference; however, that of the control group has remained almost the same.

With regard to these data, it could be stated that there is a significant difference between the average post-attitude scores of the experimental group and the control group and that the active learning approach applied to the experimental group is more effective in total average attitude scores than the traditional learning method in teaching science.

DISCUSSION

There has been found a significant difference between the average post-attitude scores of the experimental group to which active learning approach has been applied and the control group which has been applied traditional learning method to. There has been a significant change in the attitudes of the students in the experimental group towards science lesson during the treatment while there has been no significant change in the attitudes of the control group students towards the lesson.

This change indicates that active learning approach is effective in teaching science lesson and positively improves the attitude of the students towards the lesson. This result bears a resemblance to some studies in the literature. Aydede and Matyar (2009), and Ozsevgec (2006) identified in their studies that active learning approach has a positive effect on the students’ attitudes towards science lesson. Kalem and Fer (2003) observed that active learning approach positively affects the attitude of graduate students towards their lecture and this approach could be utilised in higher education. Arıkan (2006) stated through his study that web-supported active learning applications have a positive effect on attitudes of prospective teachers towards lessons. Similarly, Zheng, Young, Brewer and Wagner (2009) found out by applying one of the methods of active learning model that the students gained a positive attitude towards learning English. The students to which this learning method was applied were able to learn English in a more entertained way than others. The active learning method applied that students stated was English as an easy-to-learn and entertaining lesson.

Arslan and Akbarov (2012) observed in their study that most of undergraduates developed a positive attitude towards English lesson and that they did not have a prejudice against this language. Besides, these students expressed that they did not feel relaxed while speaking in English.

Alkaff (2013) stated that students generally had positive attitude towards learning English; however, they complained about having lack of time to learn this language. They also indicated that due to the activities based on grammar and memorization, they would not do other activities related to speaking and use of language. Alkaff also remarked that if they learnt the language in an entertaining way, they would not feel anxious about it and would be more successful in learning.

Unal and Sarı (2013) found out through their research that the activities such as positive thinking, creative thinking, determination and active learning turned negative attitudes of students towards lessons into a positive one.

This result of the study differs from some studies in the literature. The study of Yurdbakan (2010) provided that there was not a significant difference in the attitudes towards English lesson between the experimental group whose lessons were taught with a communicational method containing active learning approach and the other group taught with the traditional method.

According to the results of the study, it has been confirmed that active learning approach has a significant effect on the attitudes of students towards science lesson. However, since the study is of experimental type, the attitudes of students towards science lesson could be researched in different schools. The effect of active learning approach on attitudes may also be studied in different grades and levels of education. Active learning approach could be applied to other units and subjects of science lesson.

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Turkish Abstract**Aktif Öğrenme Yaklaşımının 7. Sınıf Öğrencilerinin Tutumlarına Etkisi**

Bu araştırmanın temel amacı, aktif ve geleneksel öğrenme grubunun tutum puan ortalamaları arasında fen öğretim sınıfında önemli bir farklılık olup olmadığını belirlemektir. Araştırmada "Öntest-Sontest Kontrol Grubu Araştırma Deseni" kullanılmıştır. Deneysel grupta aktif öğrenme yöntemi ile eğitim programı ve ders materyalleri hazırlanmış ve kullanılmış olmakla birlikte, kontrol grubunda geleneksel yöntem kullanılmıştır. Deneysel ve kontrol grupları arasında çalışmada sonunda deneysel gruba lehine anlamlı bir fark bulunmuştur.

Anahtar Kelimeler: aktif öğrenme, öğrenci merkezli öğrenme, öğrenme ortamı, geleneksel öğrenme

French Abstract**L'Effet d'Approche d'Apprentissage Active sur les Attitudes d'Étudiants de 7ème**

Le but principal de cette étude est de déterminer s'il y a une différence significative dans la classe de science enseignante entre l'attitude moyenne beaucoup de groupe d'apprentissage actif et ceux de groupe d'apprentissage traditionnel. "Pretest-posttest le design de groupe témoin" a été utilisé dans l'étude. Tandis que le programme d'enseignement et les matériels de cours ont été préparés et utilisés en ce qui concerne la méthode d'apprentissage active dans le groupe expérimental, la méthode traditionnelle a été utilisée dans le groupe témoin. Il y a eu une différence significative entre expérimental et des groupes témoins en faveur du groupe expérimental à la fin de l'étude.

Mots Clés: apprentissage actif, attitude, apprentissage centré sur étudiant, environnement d'apprentissage, apprentissage traditionnel

Arabic Abstract**أثر منهج التعلم النشط على اتجاهات طلاب المستوى السابع**

والغرض الرئيسي من هذه الدراسة هو تحديد ما إذا كان هناك فرق كبير في تدريس درجة العلوم بين متوسط درجات الموقف من مجموعة التعلم النشط وتلك من مجموعة التعلم التقليدية. وقد استخدم "تصميم مجموعة التحكم Pretest-posttest" ضمن الدراسة. في حين تم إعداد برنامج التعليم والمواد الدراسية واستخدامها فيما يتعلق بطريقة التعلم النشط في المجموعة التجريبية، وقد استخدمت الطريقة التقليدية في المجموعة الضابطة. كان هناك فرق معنوي بين المجموعتين التجريبية والضابطة لصالح المجموعة التجريبية في نهاية الدراسة.

الكلمات الرئيسية: التعلم النشط، الموقف، والتعلم المتمحور حول الطالب، وبيئة التعلم، والتعلم التقليدي

German Abstract**Die Wirkung des aktiven Lernansatzes auf die Einstellung der Schüler der 7. Klasse**

Der Hauptzweck dieser Studie ist es, zu bestimmen, ob es einen signifikanten Unterschied in der Lehre Wissenschaft Klasse zwischen den durchschnittlichen Haltung Noten der aktiven Lerngruppe und die der traditionellen Lerngruppe. "Pretest-posttest control group design" wurde in der Studie verwendet. Während das Bildungsprogramm und die Lehrmaterialien im Hinblick auf die aktive Lernmethode in der experimentellen Gruppe vorbereitet und genutzt wurden, wurde in der Kontrollgruppe eine traditionelle Methode verwendet. Es gab einen signifikanten Unterschied zwischen experimentellen und Kontrollgruppen zugunsten der experimentellen Gruppe am Ende der Studie.

Schlüsselwörter: aktives lernen, haltung, studentenzentriertes lernen, lernumgebung, traditionelles lernen

Malaysian Abstract**Kesan Pendekatan Pembelajaran Aktif terhadap Sikap Pelajar Gred 7**

Tujuan utama kajian ini adalah untuk menentukan sama ada terdapat perbezaan yang signifikan dalam kelas sains pengajaran di antara skor sikap pelajar kumpulan aktif dan kumpulan pembelajaran tradisional. "Reka bentuk kumpulan kawalan pretest-posttest" telah digunakan dalam kajian ini. Walaupun program pendidikan dan bahan kursus telah disediakan dan digunakan berkaitan dengan kaedah pembelajaran aktif dalam kumpulan eksperimen, kaedah tradisional telah digunakan dalam kumpulan kawalan. Terdapat perbezaan yang signifikan antara kumpulan percubaan dan kawalan yang memihak kepada kumpulan eksperimen pada akhir kajian.

Kata Kunci: pembelajaran aktif, sikap, pembelajaran berpusatkan pelajar, persekitaran pembelajaran, pembelajaran tradisional

Russian Abstract**Влияние Активного Обучению Подхода на Отношения Учащихся 7-го Класса**

Основная цель этого исследования состоит в том, чтобы определить, существует ли значимая разница в преподавании научного класса между средними оценками оценки активной группы обучения и традиционными обучающими группами. В рамках исследования использовалось тестирования - посттест контрольной группы. Хотя учебная программа и учебные материалы были подготовлены и использованы в отношении активного метода обучения в экспериментальной группе, традиционный метод использовался в контрольной группе. Значительная разница между экспериментальной и контрольной группами проявилась в отношении экспериментальной группы в конце исследования.

Ключевые Слова: активное обучение, отношение, ориентированное на учащегося обучение, учебная среда, традиционное обучение