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Full Length Research Paper

The effect of classroom teachers' attitudes toward constructivist approach on their level of establishing a constructivist learning environment: A case of Mersin

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Abstract

This study aims to determine the attitudes of classroom teachers towards constructivist approach and to analyze the effect of their attitudes towards constructivist approach on their level of creating a constructivist learning environment. For that purpose, relational screening model was used in the research. The research sample included 504 teachers doing their duties in 32 elementary education schools in the Province of Mersin Akdeniz, Yenişehir, Toroslar and Mezitli central districts. Attitudes of the teachers towards the constructivist approach were measured using "Constructivist Approach Attitude Scale" (CAAS) developed by Evrekli et al.; and their level of creating a constructivist learning environment was measured using "Constructivist Learning Environment Scale" (CLES) developed by Tenenbaum et al. (2001) and adapted into Turkish by Fer and Cirik (2006). At the end of the research, it was determined according to the views of most classroom teachers that attitudes towards the constructivist approach were positive; they created constructivist learning environment at medium level; there was also a significant difference between constructivist learning environment scale and sub-dimensions of discussion and interviews, sharing opinions with others, reflecting and motivating for the discovery of concept, meeting the needs of the learners and creating a meaning and correlation with real life situations. It was also determined that there was no significant difference between conceptual contradictions and material and sources, leading to a sub-dimension of conclusion.

Key words: Classroom teacher, attitude, constructivist approach, learning environment

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The effect of classroom teachers' attitudes toward constructivist approach on their level of establishing a constructivist learning environment: A case of Mersin

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This study aims to determine the attitudes of classroom teachers towards constructivist approach and to analyze the effect of their attitudes towards constructivist approach on their level of creating a constructivist learning environment. For that purpose, relational screening model was used in the research. The research sample included 504 teachers doing their duties in 32 elementary education schools in the Province of Mersin Akdeniz, Yenişehir, Toroslar and Mezitli central districts. Attitudes of the teachers towards the constructivist approach were measured using "Constructivist Approach Attitude Scale" (CAAS) developed by Evrekli et al.; and their level of creating a constructivist learning environment was measured using "Constructivist Learning Environment Scale" (CLES) developed by Tenenbaum et al. (2001) and adapted into Turkish by Fer and Cirik (2006). At the end of the research, it was determined according to the views of most classroom teachers that attitudes towards the constructivist approach were positive; they created constructivist learning environment at medium level; there was also a significant difference between constructivist learning environment scale and sub-dimensions of discussion and interviews, sharing opinions with others, reflecting and motivating for the discovery of concept, meeting the needs of the learners and creating a meaning and correlation with real life situations. It was also determined that there was no significant difference between conceptual contradictions and material and sources, leading to a sub-dimension of conclusion.

Key words: Classroom teacher, attitude, constructivist approach, learning environment.

INTRODUCTION

In recent times, when information has been produced rapidly, future of the individual and society seems depend on reaching information, using the reached information and producing new information through the used information. Acquiring those skills and maintaining them in life does not necessitate memorizing, but on constructivism which is a modern educational approach based on the production of information.

As a poststructuralist theory, constructivism defines learning as a constructionist, self-innovative and non-

linear building process that emerges as result of active students' interaction with their surroundings, physical and social world (Doll, 1993; Matthews, 2002; Loyens et al., 2008). Constructivist understanding that has gained importance after 1980s has supported that learning has to do with individuals processing information efficiently in the brain and so interiorizing it, correlating the previously acquired information with the new one. Individuals create new meanings through the interactions they have established between ideas, events and activities they

encountered and acquired before. Information has been gained through participation instead of memorizing or repeating (Abdal-Haqq, 1998; Gijbels et al., 2006). In the classrooms where constructivist approach has been performed, the subject the learner should learn has not been considered as a pile of information that should be memorized. "According to this approach, learning is a process of creating an understanding related to the world. Information in learning environment is created through social interactions and it is special to the individual" (Fox, 2001). Constructivist approach supporting student-centered learning, improving student motivation and student skills and so establishing an efficient learning environment have all been considered as the reasons why the approach is gaining importance (Boddy et al., 2003).

Constructivist learning environment has been defined by several researchers as an environment where active participation of students to the real life experiences has been provided in order to increase conceptual change, and problem-based situations have been created (Solomonidou and Kolokotronis, 2008; Loyens et al., 2007; Glickman et al., 2004). The most important purpose of constructivist - approach based learning environment is to provide students learning in a deep and meaningful way (Rikers et al., 2008). Presenting sophisticated expressions of the reality, providing the information to be created, emphasizing the duties in meaningful contexts, supporting ideational reflection upon experiences, supporting production of information through the content and creating information cooperatively with context and content have all been in the forefront to create a constructivist learning environment (Tezci and Gürol, 2001). Besides those properties, the conducted studies have revealed both perceptions of learners towards the learning environment and observation results of the researchers. Hand et al. (1997) have determined in their study that students have had the opportunity of using their own idea and knowledge freely in the constructionist learning environment and have become aware of their changing role and responsibility within the classroom; their motivation and reliance upon themselves in participating to learning and teaching process has increased. In his study, Yanpar (2001) specified the features of a classroom based upon constructivist approach as control, orientation, group work, student activity and different material preparation process. Tenenbaum et al. (2001) determined the basic features of constructivist learning environment as discussions and interviews, conceptual contradictions, sharing the opinions with others, achieving a solution through the materials and sources, reflection and motivation to discover concepts. Moreover, researches have been carried out related to efficiency of constructivist learning environment. There have been several studies that reveal the positive effects of the constructivist program application on learners' academic

success (Bukova-Güzel, 2007; Gültepe et al., 2008; Lord, 1999; Maypole and Davies, 2001; Simon and Schifter, 1993), thinking skills (Tynjala, 1998), problem solving skills (Wolf, 1994), motivations (Hand et al., 1997), their cognitive and affective products (Yanpar, 2001), their creativity (Tezci and Gürol, 2002; 2003), teacher and students' views (Altun and Büyükduman, 2007) and teachers' perceptions (Sert, 2008; Özel et al., 2009).

It is the duty of the teachers to establish a constructivist learning environment. Whereas the teacher has had a role that conveys the information in traditional learning process, the teacher is in a close interaction with the students in a constructivist learning environment (Loyens and Gijbels, 2008; Rikers et al., 2008). The essence is having teachers with attitudes that can help students to construct their own information, towards practicing teaching profession and constructivist approach. In this sense, the attitudes of teachers adopted for practicing their profession as well as constructivist approach in teaching and learning process will be efficient on the level of creating a constructivist learning environment.

An attitude that expresses a predisposition reaction of individuals against any subject around them has been a case that causes bias in decision-making process and shapes the behaviors of individuals. If the attitude developed against any object or event is positive, then the possibility of the decisions related to those to be positive will be higher. For this reason, attitudes have had a qualification of a decision related to the future (Ülgen, 1995; Tavşancıl, 2002). Attitude has been considered as the most important factors that affect motivation and behavior of teachers positively or negatively. According to Ekici (2002), attitude has been accepted as an important explicative of behavior with its cognitive, affective and behavioral dimensions. According to Tavşancıl (2002), attitude has been an element that shapes behaviors of the individual and occurs as a result of the learning process. Attitudes of the individual that express their tendency towards acting in a positive or negative manner can be learned through their experiences, observations and knowledge (Hatzios, 1996).

Measuring the attitudes in teaching and learning process has provided benefits in terms of various points of views such as predicting the future behavior of the learner by determining attitudes in a specific time unit, determining their attitudes related to the current situations, changing their attitudes or learning the current preferences of learners for establishing new attitudes. So, trying to describe behaviors of the individual scientifically provides benefits to orient the behavior for the better through prediction (Baysal and Tekarlan, 1998; Öner, 1997). The studies that have been carried out in parallel with this have also revealed that attitudes of the students have been one of the most important factors that play great role in their school success.

Students who have positive attitude towards school show more success than the ones who have negative attitude and so they gain more benefit from the educational program (McCoach, 2002). Recently, the most important factor of affective learning proved through researches that shape and affect the life of the individual has been attitudes, and measuring and evaluating the attitudes in different stages of the training process has become prominent. According to Maxwell (2002), our attitudes at the beginning of a work affect the result of that work more than the other factors. Classroom teachers establishing a positive attitude towards the constructivist approach has made us consider that they should establish a learning environment oriented to constructivist approach in their classroom. When the studies on this issue have been analyzed, it is noticed that attitudes of pre-service teachers towards the constructivist approach (Evrekli et al., 2009; Kesercioğlu et al., 2009; Inel et al., 2010; Kasapoğlu and Duban, 2012) and their level of establishing constructivist learning environment (Tenenbaum et al., 2001; Fer and Cırık, 2006) have been analyzed as independent of each other.

As a result of a more efficient and terminal education-seeking in our country, practicing elementary education programs based on constructivist understanding as of 2005-2006 academic year has brought about many problems to be solved. Teachers' displayed behaviors in accordance with the constructivist learning environment have been the leading of these problems. Solving the problems related to practicing the program based on constructivist approach in our country has necessitated the researches on teachers' attitudes.

Statement of problem

This study aims to analyze the effect of attitudes of classroom teachers to the constructivist approach on their level of establishing a constructivist learning environment.

Research problems

1. How are the attitudes of classroom teachers towards the constructivist approach?
2. What is the level of classroom teachers to establish a constructivist learning environment?
3. Is there a significant difference between the level of classroom teachers to establish a constructivist learning environment and their attitudes towards the constructivist approach?

METHOD

The research is a descriptive study using relational screening model. Classroom teachers' attitudes towards the constructivist

approach and their level of establishing a constructivist learning environment have been described; and moreover, whether there has been a significant difference between their attitudes towards the constructivist approach and their level of establishing a constructivist learning environment has been analyzed.

Subjects

The study population included classroom teachers carrying on their duties in whole formal elementary education institutions in the central districts (Mezitli, Yenişehir, Akdeniz, Toroslar) of the province of Mersin in 2012 to 2013 academic year. In accordance with the purpose of the research, 32 elementary schools have been chosen among the ones that represent low, middle and high socio-economic levels using stratified sampling method of random sampling model; a total of 504 classroom teachers including (277 females and 227 males) were included in our study sample. 22.2% of the teachers included in the sample have worked in schools located in an area that has high socio-economic level, 49.0% in an area that has a middle socio-economic level and 28.8% in an area that has a low socio-economic level. In terms of gender, 55.0% of the sample included female teachers and 45.0%, male teachers. According to the age, 1.0% of the teachers were 21 to 25 years old; 12.1%, 26 to 30 years old; 16.7%, 36 to 40 years old; 25.0%, 41 to 45 years old and 28.6%, 46 years old and over. According to the professional seniority; 7.1% of the teachers have had 1 to 5 years seniority, 15.1% had 6 to 10 years seniority, 19.8% had 11 to 15 years seniority, 16.3% had 16 to 20 years seniority, 20.4% had 21 to 25 years seniority and 21.2% had 26 years and over seniority. According to the grade of the trained class, 10.3% of the teachers carried out their duty in 1st grade, 18.1% in 2nd grade, 29.0% in 3rd grade and 42.7% in 4th grade. According to the type of school they work in, 91.3% of the teachers have worked in state schools and 8.7% in private schools. According to the type of school they graduated from lastly, 11.9% of the teachers have graduated from training institutes, 4.4% from teachers' high school, 10.9% from associate degree, 4.0% from postgraduate, 49.4% from faculties of education and 19.4% from other faculties. The ones that have graduated from "other" faculties according to the type of school they graduated from lastly included the ones that graduated from other faculties, except from the faculty of education (For example, Faculty of Science and Arts, Faculty of Agriculture, Faculty of Economic and Administrative Sciences). Personal information related to the classroom teachers is analyzed and a percentage table has been created. The results are shown in Table 1.

Data collection tools

In the research, "Constructivist Approach Attitude Scale" developed by Evrekli et al. (2009) on 5-point likert type was used to determine the attitudes of classroom teachers towards the constructivist approach. The scale including positive and negative attitude items (19) was set upon two factors and Cronbach alpha value related to the first factor was determined as .90; Cronbach alpha value related to the second factor was determined as .87. Cronbach alpha reliability coefficient related to the whole scale was found as .93 (Evrekli et al., 2009).

Moreover, In order to determine the level of classroom teachers to establish a constructivist learning environment, "Constructivist Learning Environment Scale" developed by Tenenbaum et al. (2001) and adapted into Turkish by Fer and Cırık (2006) was used. The scale measured the participation level of teachers to thoughts related to situation, which is the most suitable learning environment. The measuring scale included 30 items and 7 factors

Table 1. The table for frequency and percentage distribution related to the study group.

Variable	Participant	f	%
Gender	Female	277	55
	Male	227	45
Socio-economic level	High socio-economic level	112	22.2
	Mid socio-economic level	247	49
	Low socio-economic level	145	28.8
Age	21-25 years old	5	1
	26-30 years old	61	12.1
	31-35 years old	84	16.7
	36-40 years old	84	16.7
	41-45 years old	126	25
	46 years old and over	144	28.6
Seniority	1-5 years	36	7.1
	6-10 years	76	15.1
	11-15 years	100	19.8
	16-20 years	82	16.3
	21-25 years	103	20.4
	26 years and over	107	21.2
Trained grade	1 st grade	52	10.3
	2 nd grade	91	18.1
	3 rd grade	146	29
	4 th grade	215	42.7
Employed school type	State	460	91.3
	Private	44	8.7
Last Graduated School	Training Institute	60	11.9
	Teachers' High School	22	4.4
	Associate Degree	55	10.9
	Faculty of Education	249	49.4
	Other Faculties	98	19.4
	Postgraduate	20	4

that define the appearance of the constructivist learning environment. Those factors were discussion and interviews (5 items, $\alpha = .90$); conceptual contradictions (3 items, $\alpha = .94$), sharing opinions with others (4 items, $\alpha = .90$); material and sources that lead to a conclusion (3 items, $\alpha = .90$); reflection and motivation for the discovery of concept (6 items, $\alpha = .89$); meeting the needs of the learner (5 items, $\alpha = .89$) and creating a meaning and correlating with real life situations (4 items, $\alpha = .90$). The scale was a 5-point likert scale type measuring instrument. The degrees that were determined from one to five specified the expressions between "never" and "always." Cronbach's alpha coefficient of internal consistency related to the dimensions of the measuring scale varied between .89 and .94.

Data analysis

The data obtained for the research were analyzed using SPSS for

Windows 17.0 statistical packaged software. Percentage and frequency (f) distributions of classroom teachers were determined according to gender, age, trained grade, professional seniority, the school they last graduated from, the type of school they carry out their duty and socio-economic level of the area the school is located in. In the research, frequency and percentage distribution tables were created to describe attitudes of classroom teachers towards the constructivist approach and their level of establishing a constructivist learning environment. Whereas the attitudes of classroom teachers towards the constructivist approach were analyzed under two categories as positive and negative measuring upon the total score, their level of establishing a constructivist learning environment was analyzed under three categories as low, mid and high. The relevancy of the scores obtained from the answers given by the teachers to the "Constructivist Learning Environment Scale" to the normal distribution was tested (Büyükoztürk, 2009). On normal distribution curve, distribution of the data was observed as near-normal. Whether classroom

teachers' level of establishing a constructivist learning environment showed a more significant difference than their attitudes towards the constructivist approach was determined using the unrelated group t-test. In all the statistical analysis, significance level of 0.05 was accepted as the criteria.

FINDINGS

In the first sub-problem of the research, attitude levels of the classroom teachers towards the constructivist approach were determined. In order to transform attitude of classroom teachers into verbal expression, total score average was calculated. Average of the constructivist approach attitude scale total scores was taken as 70.61 (Sd = 11, 58387), and establishing a constructivist learning environment attitudes of the classroom teachers who have scores over the average was accepted as positive and attitudes of the classroom teachers who have scores below the average was accepted as negative. The data obtained from the answers of classroom teachers to the "Constructivist Approach Attitude Scale" were analyzed and frequency and percentage table was created; the results are shown in Table 2.

As it can be seen in Table 2, according to the answers classroom teachers gave to attitude scale towards the constructivist approach, 52.8% of the classroom teachers were determined as having a positive attitude and 47.2%, as having a negative attitude.

In the second sub-problem of the research, classroom teachers' level of establishing a constructivist learning environment was determined. Factor total scores of classroom teachers obtained from the answers they gave to constructivist learning environment scale were categorized as low, mid and high. While categorizing, firstly compliancy of the data obtained from the answers given by the classroom teachers to the constructivist approach learning environment scale to the normal distribution was determined. And in order to create low, mid and high categories, arithmetic mean and standard deviation values were of benefit on the basis of scale factors. According to this, $\bar{X} - Sd$ and below was accepted as low; between $\bar{X} - Sd$ and over as $\bar{X} + Sd$ and below was accepted as mid and $\bar{X} + Sd$ and over was accepted as high. The data obtained from the answers of classroom teachers to "Constructivist Learning Environment Approach" were analyzed, frequency and percentage table was created and the results are shown in Table 3.

When Table 3 is analyzed, majority of the classroom teachers (f=347, 68.8%) were noticed as establishing a constructivist learning environment at a medium level. Whereas 15.1% of the classroom teachers established constructivist learning environment at low level, 16.1% established at high level. When a constructivist learning environment scale sub-dimension was analyzed, it is

Table 2. The frequency and percentage distribution table related to the classroom teachers' level of attitude towards the constructivist approach.

Attitude	f	%
Positive Attitude	266	52.8
Negative Attitude	238	47.2
Total	504	100.0

noticed that classroom teachers established a constructivist learning environment at the highest level in meeting the needs of the learners (49.6%) sub-dimension. This situation arose from the positive attitudes of classroom teachers towards the constructivist approach. When a constructivist learning environment scale sub-dimension was analyzed, it is noticed that classroom teachers established a constructivist learning environment at the lowest level in the sub-dimension of material and sources that lead to a conclusion (9.7%). 71.6% of the classroom teachers (f=361) have established a student-centered, interactive learning environment at mid-level which emphasized the use of primary sources and materials that support learning. Majority of the classroom teachers who participated in the research have had the perception that at mid-level they are involved in making discussion and interviews (61.9%), creating a meaning and correlating with real life situations (60.5%), making reflection and motivating the students to discover the concepts (57.3%), sharing opinions with others (54.0%). It has also been noticed that high (f=81, 16.1%) and low (f=76, 15.1%) level rates related to establishing a constructivist learning environment were similar.

In the third sub-problem of the research, whether classroom teachers' level of establishing a constructivist learning environment showed more significance than their attitudes towards the constructive approach has been analyzed. For that purpose, unrelated t-test analysis was performed and the results are shown in Table 4.

In Table 4, unrelated group t-test results related to whether classroom teachers' level of establishing a constructivist learning environment showed more significance than their attitudes towards the constructive approach were presented. Positive attitudes ($\bar{x} = 120.55$) of the classroom teachers towards the constructivist approach were higher than their negative attitudes ($\bar{x} = 106, 11$). These findings can be interpreted in a way that there has been a significant difference between classroom teachers' level of establishing a constructivist learning environment and their attitudes towards the constructivist approach. This situation has proved that attitudes of classroom teachers towards the constructivist approach have revealed a significant difference according to their level of establishing a constructivist learning environment in scale total score ($t(502)=8.415; p<.01$). According to the attitudes of

Table 3. The frequency and percentage distribution table related to classroom teachers' level of establishing a constructivist learning environment.

Constructivist learning environment	Low		Medium		High	
	f	%	f	%	f	%
Discussions and interviews	96	19.0	312	61.9	96	19.0
Conceptual contradictions	127	25.2	248	49.2	129	25.6
Sharing opinions with the others	90	17.9	272	54.0	142	28.2
Material and sources' aiming to lead to a conclusion	49	9.7	361	71.6	94	18.7
Reflection and motivation for discovery of concept	95	18.8	289	57.3	120	23.8
Meeting the needs of learners	104	20.6	150	29.8	250	49.6
Creating a meaning and correlating with the real life situations	90	17.9	305	60.5	109	21.6
Total	76	15.1	347	68.8	81	16.1

Table 4. Unrelated group t-test results related to whether classroom teachers' level of establishing a constructivist learning environment showed more significance than their attitudes towards the constructive approach.

CLES sub-dimensions	CAAS attitude	N	\bar{X}	Ss	SD	t	p
Discussions and interviews	Negative attitude	238	18.44	4.29	502	6.764	.001
	Positive attitude	266	20.79	3.48			
Conceptual contradictions	Negative attitude	238	8.26	3.18	502	1.140	.405
	Positive attitude	266	7.93	3.37			
Sharing opinions with the others	Negative attitude	238	14.87	3.50	502	9.240	.001
	Positive attitude	266	17.36	2.53			
Material and sources' aiming to lead to a conclusion	Negative attitude	238	10.89	2.79	502	6.877	.131
	Positive attitude	266	12.92	3.83			
Reflection and motivation for discovery of concept	Negative attitude	238	21.51	5.06	502	7.869	.001
	Positive attitude	266	24.79	4.28			
Meeting the needs of learner	Negative attitude	238	17.75	4.20	502	6.398	.001
	Positive attitude	266	19.92	3.42			
Creating a meaning and correlating with real life situations	Negative attitude	238	14.40	3.46	502	9.140	.001
	Positive attitude	266	16.85	2.52			
Total	Negative attitude	238	106.11	21.26	502	8.415	.001
	Positive attitude	266	120.55	17.23			

teachers towards the constructivist approach, it is noticed that there has been a significant difference in sub-dimensions of discussion and interview $t(502)=6.764$, $p<.01$; sharing opinions with others $t(502)=9.240$, $p<.01$; reflection and motivation for the discovery of concept $t(502)=7.869$, $p<.01$; meeting the needs of the learner $t(502)=6.398$, $p<.01$; creating a meaning and correlating with real life situations $t(502)=9.140$, $p<.01$. However, it is determined that there was no significant difference

between the sub dimensions of conceptual contradictions $t(502)=1.140$, $p>.05$ and material and sources that lead to a conclusion $t(502)=6.877$, $p>.05$ of classroom teachers' attitudes towards the constructivist approach.

DISCUSSION AND CONCLUSION

According to the research results, it has been determined

that classroom teachers have positive attitudes towards the constructivist approach; majority of the classroom teachers have established a constructivist learning environment at mid-level and there has been a significant relationship between classroom teachers' level of establishing a constructivist learning environment and their attitudes towards the constructivist approach. Moreover, a significant relationship was noticed between the attitude towards the constructivist approach and sub-dimensions of constructivist learning environment scale such as discussion and interviews, sharing opinions with others, reflection and motivation for the discovery of concept, meeting the needs of the learners, creating a meaning and correlating with real life situations. However, a significant relationship could not be determined between attitude towards constructivist approach and constructivist learning environment scale sub-dimensions such as conceptual contradictions and material and sources that lead to a conclusion. The more positive is classroom teachers' attitudes towards the constructivist approach, the higher the level they have on establishing a learning environment related to discussion and interviews, sharing opinions with others, reflecting and motivating for the discovery of concept, meeting the needs of the learners and creating a meaning and correlating with real life situations.

Classroom teachers' positive attitude towards constructivist approach has supported the research results of Balım et al. (2009). In his research, Kasapoğlu (2010) found a significant relationship between the attitudes of classroom teachers towards change and constructivist learning activities. In their research, Işikoğlu et al. (2009) determined that elementary education teachers have had a positive belief related to student-centered education. There are also studies that reveal the compliancy of curriculums to the principle and standards of constructivist approach theoretically (Sert, 2008; Şahin, 2007). In a study carried out by Sert (2008), it was deduced that teachers have met the expectations of the constructivist approach at a high level. However, this result was obtained according to the perceptions of the teachers. Moreover, the studies depending upon the observations of the researchers have indicated different findings. In a study carried out by Ünal and Akpınar (2006), it is seen that although teachers have ideas related to the significance of constructivist learning environment, they could not display constructivist behaviors in classroom environment.

Majority of the classroom teachers establishing a constructivist learning environment at mid-level has made us to consider that they have encountered problems in practice. Conducted studies have indicated that problems such as inadequate sources, crowded classrooms are suitable for multi-grade classes; it has not been easy to do measurement and evaluation. Inadequacy of in-service training, activities and evaluation taking too much time, lack of materials and physical

infrastructure have hindered the establishment of a constructivist learning environment (Gözütok et al., 2005; Yapıcı and Leblebiciler, 2007; Yapıcı and Demirdelen, 2007; Sert, 2008; Loyens and Gijbels, 2008). In the literature, it is emphasized that teachers could not organize the classroom environment in accordance with the constructivist learning approach (Ersoy, 2005); and for this reason, making the students ready for learning intrinsically should be emphasized more than organizing the outer environments (Rikers et al., 2008; Zhang, 2008; Loyens and Gijbels, 2008; Solomonidou and Kolokotronis, 2008).

Adapting constructivist approach during the process of teacher training can be an important factor for the levels of classroom teachers to establish a constructivist learning environment and to have a positive attitude towards constructivist approach. In a study carried out by Hovard et al. (2000) upon pre-service teachers, it is seen that practices based upon the constructivist approach resulted in a change from objectivist epistemology to constructivist epistemology. In their research, Kim et al. (1998) accomplished the result that learning process based upon constructivism has had a positive effect upon pre-service teachers that plan their teaching strategies based upon constructivism. However, teachers need to have more experiences based upon constructivist practices not only in their pre-service trainings, but also during the in-service trainings. In a research carried out by Yaşar et al. (2005), it is shown that teachers have training needs in terms of acquisitions related to new programs, content, teaching-learning processes and evaluation.

Suggestions

In this sense, in-service trainings should be performed to meet the needs of classroom teachers on this issue; activities should be organized to make teachers improve their positive attitudes towards the constructivist approach and there should also be provided in-service trainings related to their establishing a constructivist learning environment in their classrooms.

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