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A Look At Constructivist Approach (Through Studies In Ulakbim)

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Abstract

In search of the effectiveness and validity of the constructivist approach, various evaluations have been made by collecting data from teachers, students, managers and all the other sharers. The aim of this study is to present the tendency of studies: i) carried out from 2005 to 2016 (until March), ii) consisting “constructivism”, “constructive teaching” or “constructive approach” in its title, iii) employed survey method. Among the presented information there will be the number of studies in given years, methods of studies and sampling and summarized results of studies. This study employs documentary analysis as method appropriate to this aim and uses descriptive analysis in order to present the data as it is and content analysis in order to analyze the data deeply. A total of 93 studies have been found in all journals indexed in the database of Ulusal Akademik Ağ ve Bilgi Merkezi (Ulakbim-National Academic Network and Information Center) that are published between 2005 and 2016 (until March when data collection was carried out), consisting one of the keywords given above in its title and employs survey method. These studies will be examined in terms of some variables through descriptive and content analysis and tendency and change of these studies in time will be examined. A total of 42 studies have been found between 2005 when compulsory education was 8 years then and new curricula went live and 2010 when counted as the first five years of compulsory education and also the new curricula. The number of studies found is 51 after than 2011. The year in which there is the highest number of studies is 2010 with 18 studies and least are 2005 and 2016 with only one. The mixed method design was preferred less than quantitative and qualitative methods. There are scale development and adaptation studies on topics such as collecting teachers’ ideas on constructivism and evaluating constructive learning environments. Data have been collected from teachers, students, school managers and supervisors as samples. Besides, document analysis has also been done to find out the appropriateness of curricula to constructivism.

Key words: constructivism; survey studies; literature review; document analysis

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Literature Review

Behaviorism dominated the educational landscape, while the foremost learning theory today is constructivism (Boghossian, 2006). In the 1960s, behaviorism transferred from psychology into education with an air of authority that was startling. The dominant idea in schooling was that when correct stimuli was provided by the teacher, not only students would learn but also their behaviors could be used to measure their learning. As a result, a long series of strategies for schools such as management by objective, outcome-based education, and teacher performance evaluation systems were the key ideas in behaviorist school systems and the responsibility for learning was placed directly on teachers. Teachers were forced to believe that if learning was not taking place, then it was their responsibility to restructure the environment, determine the most appropriate reinforcement to promote the desired student behavior, or provide a negative reinforcement to extinguish unwanted behaviors (Jones & Brader-Araje, 2002). There is a multifaceted and contested epistemological mindset with important implications for classroom teaching in constructivism, but it amounts to little more than an educational slogan in the absence of conceptual understanding and clarification (Hyslop-Margison & Strobel, 2007).

Since its first appearances in the literature, early in the 1970s, the term “constructivist” has attracted much attention in several branches of educational discourse. It is most popular with those who are interested in processes of learning. Among policymakers, curriculum planners, and classroom teachers, constructivism is not nearly so process- or domain-specific. Claims of constructivist classrooms, constructivist teaching, constructivist resources, and constructivist programs exist across subject areas (Davis & Sumara, 2002). According to Vianna & Stetsenko (2006) constructivism is “de facto” dismissed as an ever-shifting ideology unable to produce tenable results. According to Richardson (2003), current interest on constructivist teaching and research on the field still cannot explain many issues especially related to the difficulty of transferring a learning theory into a teaching or practice theory.

According to constructivists’ claims, the learner actively constructs the knowledge, does not passively receive it from the outside. Learners come to class with existing ideas and while some of these ideas are ad hoc and unstable, others are more deeply rooted and well developed. Belonging to the individuals or shared by some or all students, these ideas are often at odds with accepted scientific ideas, and some of them may be persistent and hard to change (Sjøberg, 2009). Strongly integrated into situations, learning is an activity that is carried out personally. Knowledge, contents, abilities, and so on are all constructed but not acquired or ‘absorbed’. This construction process never starts at the level of zero, but always has its basis in an already existing (knowledge-) structure. The existing knowledge, or more generally experience, is the starting point for any interpretation of the pieces of information that lead to learning as a construction of knowledge (Terhart, 2003).

In order educational innovations and reforms to be accepted and applied, there are critical requirements: teacher, curricular, and societal readiness. In the past, reforms were generated by one or the other form of readiness, but without the support of the others (Elkind, 2004). The curricula reform in Turkey in 2005 that aimed to adapt the constructivism has been examined in terms of teacher, curricular and societal readiness through many academic researches. These researches try to put forward the reactions by teachers, students, managers, parents etc. towards constructive applications and understand the effectiveness of new so-called “constructive curricula.”



Aim

The aim is to present the inclinations from the various aspects of the studies which are related to this approach and have been conducted with descriptive research method in the national literature (ULAKBIM) since 2005 when people in Turkey started to adopt constructivist education approach.

Problem

What is the inclination of the educational researches which are related to constructivist education approach and have been conducted in the national literature between 2005 and 2016?

- (1) How have the national studies researching constructivist approach in education been distributed between 2005 and 2016?
- (2) Which research designs were used in conducting national studies researching constructivist approach in education?
- (3) Which methods were used in conducting national studies researching constructivist approach in education?
- (4) Who constituted the population and sampling of the national studies researching constructivist approach in education?
- (5) Which topics do the national studies researching constructivist approach in education deal with?
- (6) In which themes are the national studies researching constructivist approach in education included?

Method

Document analysis method—one of the qualitative research methods—was used in the study. Document analysis is a method providing great benefits for the research by covering long-term progresses of situations, events and so on in time (Cohen, Manion and Morrison, 2007). Document analysis method was preferred for this study since the aim was to reveal the processes and inclinations in the screening efforts questioning the constructivist approach in the education for the period between 2005 and 2016.

Five-step process, which was proposed by Foster (1995, c.b.Yıldırım and Şimşek, 2011: 193), was applied in the document analysis process. This process includes the following: (1) accessing the documents, (2) checking the authenticity, (3) understanding the documents, (4) analyzing the data and (5) using the data. Articles matching the research criteria in the database (ULAKBIM) were combined by independent researchers for this study, and these articles were checked to see if they were appropriate. After eliminating the inappropriate ones, documents were analyzed thoroughly for the purpose of accessing the specifications which could be used as the data. The data were transformed into tables or charts/figures with the aim of presentation after the data analysis was performed as instructed in the next chapter.

Data Analysis

Descriptive analysis method, which is a qualitative data analysis method including the process of summarizing and interpreting the data obtained with various data collection methods under the themes determined before, and content analysis method, which is not seen in analysis data set and does include the process of revealing the themes and the significant relationships between these themes by coding and categorizing (Yıldırım and Şimşek, 2003), were used in this study. Each study was examined thoroughly in the data analysis process for the specifications (year, method, sampling and so on) to be described in this study.

Miles and Huberman's (1994) compatibility calculation method was used to ensure the reliability in the data analysis. Accordingly, independent coding (independent from each other) was performed by the researchers, and compatibility coefficient was found to be 88%. Therefore, coding was accepted as reliable since that figure was higher than the minimum value (70%) estimated by Miles and Huberman (1994).

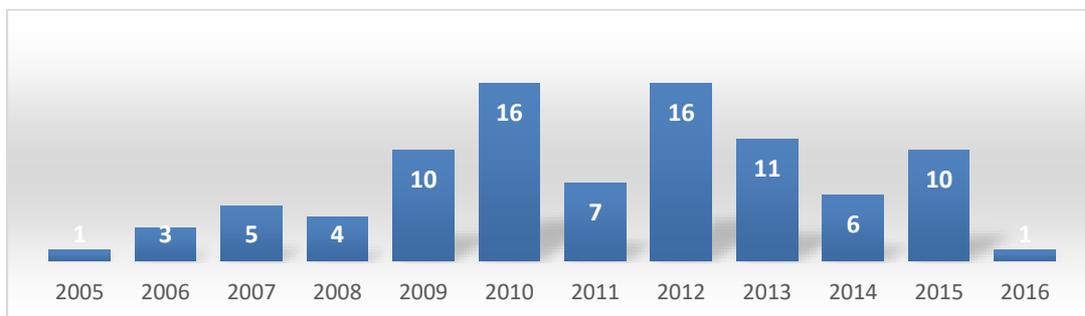
Population and Sampling

The following criteria were observed while selecting the studies to be analyzed in this study: Published in the journals (searched in ULAKBIM database) between 2005 and 2016 (until May when the data were collected) with the titles including the following keywords: Constructivism, Constructivist Education, Constructivist Approach. Studies were conducted with descriptive research method. Purposive sampling method was used in selecting the studies since it has certain selection criteria for sampling. Ninety studies were found after the searching process.

Findings

Sub-problem 1: How have the national studies researching constructivist approach in education been distributed between 2005 and 2016?

Figure 1. Studies by Years

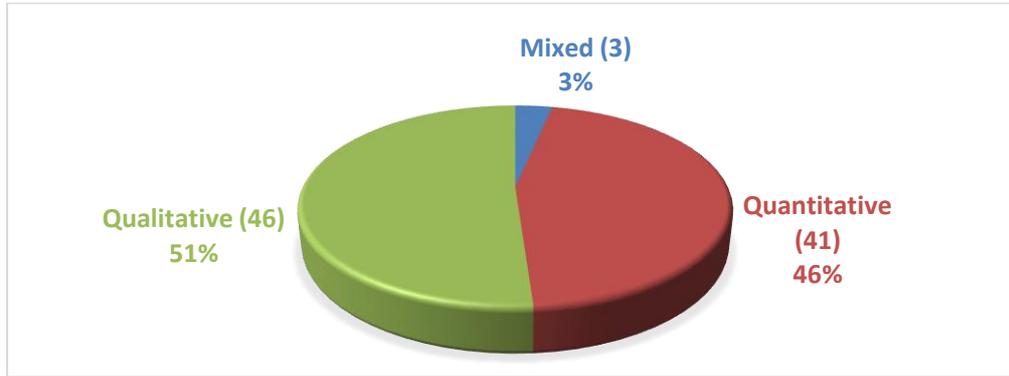


Curricula were revised and made appropriate for the constructivist approach in 2005. Compulsory education lasted eight years (5+3) in this period. Studies were found most at the end of the fifth year (2009-2010, twenty-six studies in total) dividing the compulsory period

into two and the eighth year (2012-2013, twenty-seven studies in total) when the compulsory education ends.

Sub-problem 2: Which research designs were used in conducting national studies researching constructivist approach in education?

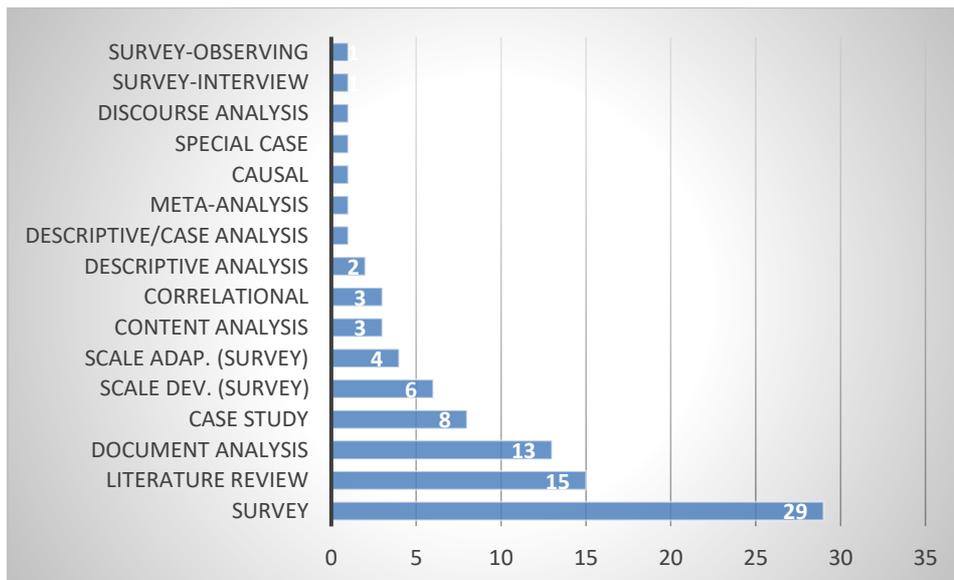
Figure 2. Studies by Design



After the studies (in the national literature) related to the constructivist approach in education were analyzed in accordance with the research designs, the most used design was qualitative (at 51% with forty-six studies), the second most used was quantitative (at 46% with forty-one studies) and the least used design was mixed (at 3% with three studies).

Sub-problem 3: Which methods were used in conducting national studies researching constructivist approach in education?

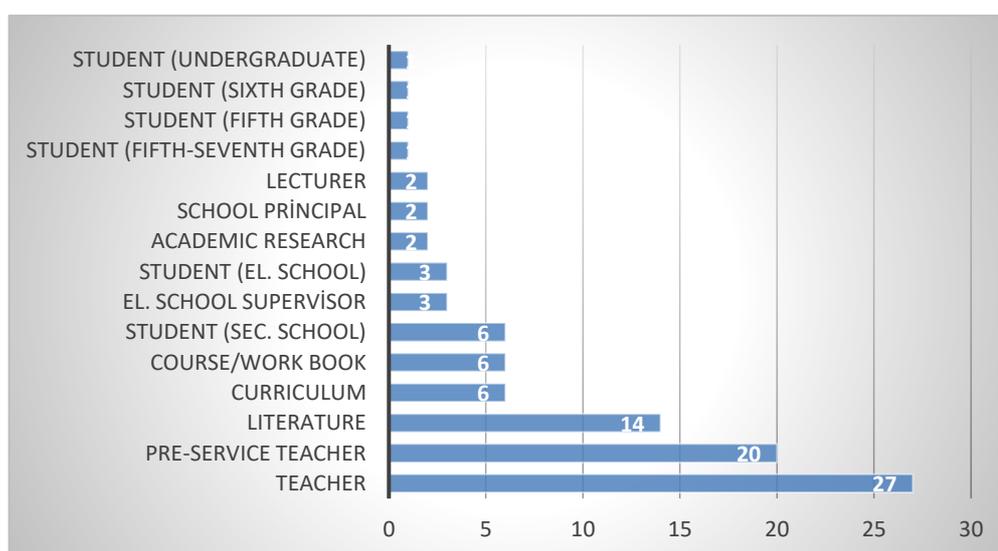
Figure 3. Studies by Methods



When the studies were analyzed for their methods, the most frequently used method was screening (32%; twenty-nine studies). When the studies were analyzed for their methods, the second most used method was found to be literature screening (17%; fifteen studies). The third most frequently used method was document analysis (14%; fourteen studies). Other most used methods were as follows: Case Study: Eight studies (9%); Scale Development (Screening): Six studies (7%); Scale Adoption (Screening): Four studies (4%). The least used methods were as follows: Content Analysis: Three studies (3%); Relational Screening: Three studies (3%); Descriptive Analysis: Two studies (2%); Screening-Observation, Screening-Interviewing, Discourse Analysis, Particular Case, Meta-Analysis, Descriptive-Case analysis, which were used once.

Sub-problem 4: Who constituted the population and sampling of the national studies researching constructivist approach in education?

Figure 4. Studies by Sampling



When the study was analyzed for the sampling group, the most frequently used sampling group was found to be teachers (twenty-seven studies; 30%). The second most frequently used sampling group was found to be the pre-service teachers (twenty studies; 22%). When the study was analyzed for the sampling group, the third most frequently used sampling was found to be the literature (fourteen studies; 16%). The fourth most frequently used sampling group was the Curricula (six studies; 7%); Course/Work Books (six studies; 7%). The distribution of the studies, in which students were used as the data source, is as follows: Secondary school students: Six studies (7%); Elementary school students: Three studies (3%); Fifth-seventh grade: One study (1%); Fifth grade: One study (1%); Sixth grade: One study (1%); Undergraduate: One study (4%). Elementary school supervisors were used in three studies (3%). School principals, on the other hand, were used in two studies (2%). Data related to the constructivist studies were found in two studies (2%) as the data source.

Sub-problem 5: Which themes do the national studies researching constructivist approach in education examine?

Table 1. Themes of the Studies

	Theme	Number of the Studies
1	Opinions and Findings Related to the Constructivist Program/Practices	20
2	Specifying/Comparing the Appropriateness of Teacher's Practices for the Constructivist Approach	16
3	Evaluating the Appropriateness of the Curricula for the Constructivist Approach	12
4	Developing/Adopting Scales Related to Constructivist Approach	10
5	Evaluating the Appropriateness of the Course Material for the Constructivist Approach	9
6	Explaining the General Specifications of the Constructivist Approach and/or Course Practices in Accordance with the Literature	7
7	The Relationship between the Constructivist Approach and Teacher Attitudes and Styles	6
8	Examining/Comparing the Qualifications of the Teacher for the Constructivist Approach	5
9	Presenting/Evaluating the Model Activity Appropriate for the Constructivist Approach	5
	Total:	90

When ninety studies (data sources) were analyzed for the themes, the theme which was studied most was found to be «Opinions and Findings Related to the Constructivist Program/Practices» (N=20; 22%). The second most frequent theme was found to be «Specifying/Comparing the Appropriateness of Teacher's Practices for the Constructivist Approach» (N=16; 18%). The third most frequent theme was found to be «Evaluating the Appropriateness of the Curricula for the Constructivist Approach» (N=12; 13%). The fourth most frequent theme was found to be «Developing/Adopting Scales Related to Constructivist Approach» (N=10; 11%). The fifth most frequent theme was found to be «Evaluating the Appropriateness of the Course Material for the Constructivist Approach» (N=9; 10%). The sixth most frequent theme was found to be «Explaining the General Specifications of the Constructivist Approach and/or Course Practices in Accordance with the Literature» (N=7; 8%). The seventh most frequent theme was found to be «The Relationship between the Constructivist Approach and Teacher Attitudes and Styles» (N=6; 7%). One of the least analyzed themes was «Examining/Comparing the Qualifications of the Teacher for the Constructivist Approach» (N=5; 6%). Another least analyzed theme was «Presenting/Evaluating the Model Activity Appropriate for the Constructivist Approach» (N=5; 6%).

Results and Discussion

Two possible reasons why the qualitative design has been used most since 2005 may be that there is a need in explaining the constructivism—a new approach for our country—in accordance with the literature and researchers' purpose of evaluating the curricula, which are claimed to be prepared in a constructivist way, in accordance with the principles of the literature.

The most frequently used method was screening and this method was found to be the method which was used to collect the opinions of teachers, pre-service teachers, lecturers and students about the constructivist curricula and practices. The second most used method was found to be literature screening and the reason why literature screening was frequent may be that constructivist approach has just been adopted and there is a need to explain this approach in accordance with the literature. The third most frequently used method was document analysis. These studies were conducted for the purpose of evaluating the new curricula, which were mentioned to be prepared in accordance with the constructivist approach, considering the constructivist approach principles.

When the study was analyzed for the sampling group, the most frequently used sampling group was found to be teachers and it was realized that the data was derived most from the teachers for the purpose of evaluating the curricula prepared in accordance with the constructivist approach and teachers' opinions and qualifications related to this approach. The second most frequently used sampling group was found to be the pre-service teachers as it is generally usual for pre-service teachers to be included in the sampling since the following themes are quite often: how much the constructivist approach is understood by the teachers who are going to teach with this approach; pre-service teachers' attitudes towards this approach and specifying the qualifications for the approach. The third most frequently used sampling was found to be the literature and these studies were conducted to explain the constructivist approach theory and the practices. When the studies were analyzed for the sampling group, Curricula and Course/Work Books were the fourth most frequently used sampling group. Studies, in which the curricula were found to be prepared in accordance with the constructivist approach and course materials were evaluated considering the constructivist principles, were found frequently. The studies in which students were used as the data source were conducted for the purpose of evaluating, with students' opinions, if the learning environments were appropriate for the constructivist approach. The studies in which school principals and elementary school supervisors were used as the source of data were conducted to evaluate if teachers' practices were appropriate for the constructivist approach and the impacts of the constructivist approach on the school atmosphere. Data related to the constructivist studies were found in two studies (2%) as the data source. The studies using constructivist studies as the source of data and which are more up-to-date when compared were conducted to present the impacts of the constructivist approach on students' attitudes and achievements.

When ninety studies (data sources) were analyzed for the themes, the theme which was studied most was found to be Opinions and Findings Related to the Constructivist Program/Practices. Studies dealing with this theme shed light on the issue of how much the constructivist approach is integrated into the educational system. The second most frequent theme was found to be Specifying/Comparing the Appropriateness of Teacher's Practices for the Constructivist Approach. These studies provide significant findings for specifying if the educational environment and teacher's practices are appropriate for the constructivist principles. The third most frequent theme was found to be Evaluating the Appropriateness of the Curricula for the Constructivist Approach. According to what constructivist approach suggests, it is quite usual that researchers test the constructivist specifications of the curricula which have been altered completely in 2005 and been changing since then. The fourth most frequent theme was found to be Developing/Adopting Scales Related to Constructivist Approach. Developing scales or adopting them from the international literature to national literature for the purposes of evaluating the constructivist learning environments and specifying teachers' opinions and qualifications in constructivist approach is a significant need



and studies with this theme aimed to meet these deficiencies. The fifth most frequent theme was found to be Evaluating the Appropriateness of the Course Material for the Constructivist Approach. Evaluating the course material, which is found to be appropriate for the constructivist approach, in accordance with the constructivist principles, and specifying whether it reflects this approach is a significant need and studies with this theme aimed to meet these deficiencies. The sixth most frequent theme was found to be Explaining the General Specifications of the Constructivist Approach and/or Course Practices in Accordance with the Literature. These studies, which were conducted to ensure that the new approach was understood better and to obtain and apply the model practices in the courses, are significant since they are sources for the constructivist approach. The seventh most frequent theme was found to be The Relationship between the Constructivist Approach and Teacher Attitudes and Styles. Specifying how teachers' teaching styles altered (or did not alter) with the constructivist approach and how teachers' attitudes with this approach affected their in-class practices is significant for determining how much the approach is adopted by those who implement. One of the least analyzed themes was Examining/Comparing the Qualifications of the Teacher for the Constructivist Approach. Constructivist practices of those were evaluated by the learners, which is different from the previous theme, and these evaluations were compared from various aspects. Another least analyzed theme was Presenting/Evaluating the Model Activity Appropriate for the Constructivist Approach. These studies provided particular practices for the courses appropriate for the constructivist approach or they evaluated the practices from various aspects.

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