

## A Review of Research on Educational Theories and Approaches Affecting Students Achievement: 1990-2011

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**ABSTRACT.** The present study aims to analyze the contents of the current research on the theories and approaches affecting student achievement in Turkish context. A total of 69 studies published in well-known Turkish journals in education were reviewed. The results of the study showed that the most frequently studied theories and approaches in Turkey in relation to student achievement/outcome were Multiple Intelligences theory, Technology-based theories and approaches, and Constructivism. The majority of reviewed studies used experimental design and found a significant mean difference in favor of experimental group. At the end of the study, the results were discussed and necessary implications and suggestions were made.

**Key Words:** New trends in education, educational research, instructional approaches, student outcome.

### INTRODUCTION

Policy makers and educators have long been seeking for ways of improving education and obtaining desirable student outcomes. Therefore, the issue of student achievement has become a high point (Greenwald et al., 1996), and it has long been studied by researchers in terms of various aspects. To illustrate, teacher thinking, teacher characteristics, teacher quality, teacher preparation, and professional development are some of the issues, the impacts of which on student outcome are investigated (Boyd et al., 2009; Clark, 1988; Cochran-Smith & Zeichner, 2005; Darling-Hammond, 2000; Goodlad, 1990; Guskey, 2002; Shann, 1998). In addition, teacher certification, degree level, years of teaching experience, certification in subject matter, examination scores, class size, school resources, student background, parent involvement, and parenting styles are other promising variables that have effect on student achievement (Brown & Iyengar, 2008; Christenson et al., 1992; Ehrenberg et al., 2001; Goldhaber & Brewer, 2000; Greenwald et al., 1996; Harnisch, 1987; Henderson, 1987; Mervis & Leininger, 1993; Heyneman, 2005; Monk & King, 1994; Raymond et al, 2001; Summers & Wolfe, 1977). Moreover, a large body of studies exists on examining the effect of educational theories and approaches on student achievement. The present review attempts to use a systematic method to analyze the results of the existing research on the impact of various theories and approaches on student outcome for policy makers and educators. Findings about the educational theories that have significant impact on student achievement are very applicable to educational discussions and policy making in Turkey.

As known, especially in the developing countries, such as Turkey, investments on the field of education are generally limited when compared to the other fields in the society. Hence, the effectiveness of used methods and approaches to increase the student success becomes much more important to prevent the waste of money and time. Moreover, throughout the last twenty years, dramatic changes and reforms has taken place in Turkish education system. The basis of the vital changes in education in Turkey goes back to the year 1990 when Turkey and the World Bank signed a protocol to improve quality of elementary and secondary education and to increase the efficiency of teacher education (Bikmaz, 2006). In particular, one of the crucial reforms was the extension of compulsory education from five years to eight years in 1997. This reform has had considerable effects on curricular and instructional practices, regulations, and research related to primary, elementary and secondary education. Furthermore, some curricular and structural reforms have been underway since 2004 for the purpose of meeting the strategic educational objectives of the European Union (Akşit, 2007), and overthrowing the failure or low attainment in international benchmarking studies in relation to science, mathematics, and reading such as PISA, TIMMS, and PEARLS (Babadoğan &

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Olkun, 2006). In this framework, new primary school curriculum has been implemented since 2005. The basic educational theories and approaches which feed the primary school curriculum have been changed; and the rationale behind this curricular reform was to transform the main approach of the curriculum from subject-centered to learner-centered one. Besides, it was aimed to change the underlying theory from behaviorism to constructivism (Bıkmaz, 2006; Bulut, 2007),

To make the future students acquire needed values, viewpoints, strategies and forms of knowledge to live creatively in the world of future, new trends in educational area have been needed (Koutselini, 1997). For that reason, together with these new ideas and triggered by the changes in educational arena, various approaches, theories, and trends have appeared, applied, and been studied by the educational researchers to investigate their effects and find new ways to increase student success.

In today's educational arena, some of these popular theories and approaches are multiple intelligences theory, constructivist learning approach, technology-based learning, brain-based learning, critical thinking, problem-based learning, active learning, and project-based learning. All these theories and approaches have implications for educational settings to enhance student achievement. For instance, Multiple Intelligences theory (MI theory) advocated by Howard Gardner (1993) pointed out that there exist different kinds of intelligences in human mind which can be discovered if suitable environment is provided. For that reason, MI theory requires the teachers to use variety of techniques, methods, activities, tools and strategies to explore and foster those intelligences of the students (Armstrong, 2000; Campbell & Campbell, 1999).

Constructivist learning approach existed since ancient times and thrived by Glasersfeld, and it was derived from the idea of "the human mind can know only what the human mind has made" (Vico, 1710, as cited in Von Glasersfeld, 1989, p.4) and emphasizes students' active construction of their knowledge in the teaching and learning process. Additionally, according to this approach, the learning environment should provide students with the opportunities to construct their own knowledge (Null, 2004). As stated before, the primary school curricula in Turkey have been renovated and the underlying theory of the new curricula have been claimed to be changed from behaviorism to constructivism (Bıkmaz, 2006; Bulut, 2007). Within this frame, the materials, activities, and all other components of the teaching and learning environment are still being re-designed or renovated in schools. The curricular and instructional activities are also being affected by these reform movements. For that reason, its implementation and effects are vehemently being discussed by teachers and other professionals in educational area. Not only in Turkey, but also in most of the world, the educators have been attracted by the constructivist education (Powell, Farrar & Cohen, 1985), as the priority of constructivist learning approach is the learners. In this frame, there have been many different definitions of constructivism. As described by Sherman and Kurshan (2005) the constructivism is to have a linkage between the previous learning and the new learning through making connections. Moreover, learning occurs inside the learners and it is an internal process, so the constructivism deals with how the learner learns internally and how they construct their knowledge on their own (Suchting, 1992; Von Glasersfeld, 1985). Regarding all these ideas and definitions, it can be asserted that the constructivist teaching approach mainly takes the learning of the learners at the center and accepts the active nature of the learning as different from the traditional ways taking the teacher and lecturing at the center. Another example of used instructional approach is technology-based learning approach developed in 1900s and to be developed continuously. Together with the developments in technological arena, education has also benefited from this trend; and the concept of instructional technology has gained much popularity. As Schacter (1999) states: "Research on the impact of technology on learning is in its infancy though we are beginning to see solid work emerge (p.3)." The usage of technology in educational activities has been increased and encouraged in recent years, so it is possible to observe its applications at schools and in everyday life. For that reason, the technology has also been integrated into teacher education at colleges of education (Carrier, 2006). In Turkey, the instructional technology has been flourished and used in many classrooms by the teachers. As argued by Oliver and Herrington (2003), technology has been used to enrich learning environment by increasing the effectiveness of teaching-learning activities and educational practices if learning settings are planned "based on meaningful relevant activities and tasks which are supported in deliberate and proactive ways by the tutor" (p.111). Apart from all of these, brain-based learning, critical thinking, problem-based learning, active learning, project-based learning and others have also

been utilized by the educators and they have been affecting the direction of educational research thorough their effects on student achievement or attainment.

Since the context in classrooms has changed significantly over the last two decades and allowed more to the use of new trends, this review was conducted with the intention of providing a clear and accessible synthesis of existing research to inform researchers and policy makers about the effect of these educational theories and approaches on student achievement in Turkish context.

It is considered by the researchers that evaluating the effects of used methods or approaches on student achievement provides a valuable feedback on their efficiency and for future applications of the practitioners. Furthermore, several recent trends suggest that a review of literature on the impact of educational theories and approaches in Turkish context is urgently needed.

Within this regard, the purpose of the present study is to analyze the contents of the current research on the theories and approaches affecting student achievement/outcome in Turkey. In this way, some common conclusions can be drawn on the effectiveness of these theories and approaches besides future implications for educators.

The following research questions guided the study:

1. Which educational theories and approaches have been mostly used in the area of research on student outcome at elementary and secondary between 1990 and 2011 in Turkey?
  - 1.1. What disciplines/ subject area have been mostly studied?
  - 1.2. Which grade levels have been mostly studied?
  - 1.3. What research methods have been used in those studies?
2. How do the applications of those theories and approaches at schools affect student achievement/outcome?

## **METHODS**

### ***Design of the Study***

The present study was planned as a review study, and it aims to “synthesize research findings to determine the true state of knowledge in relation to the phenomena in question” (Krathwohl, 1998, p.553). Within this frame, the objective of this review is to compose a clear interpretation of the research for policy makers and researchers who are interested in the effects of new trends on student achievement. More specifically, this study analyzes the contents and the results of the earlier studies conducted on the educational theories and approaches in relation to student achievement between 1990 and 2011 in Turkish context. Appropriate to the nature of review studies, the review started with an examination of major educational journals’ archives and approved Master’s and Ph.D. theses from the Higher Education Council, which were selected using certain criteria as described below.

### ***Sampling Procedures***

The study is a review study, so the sample of the study is composed of the research articles published in five major educational journals and the Master’s and Ph.D. theses in Turkey. The selected educational journals, from which the articles were derived, include Eurasian Journal of Educational Research (EJER), Elementary Education Online (EEO), and Educational Sciences: Theory & Practice (ESTP), Journal of Ankara University Faculty of Educational Sciences, Journal of Hacettepe University Faculty of Education, and Journal of Gazi University Faculty of Education. The main reasons for selecting these journals are their being peer-reviewed and their popularity in the field of education; having accessible online archive; and these journals publish well-done research articles on the current educational theories and their applications in education settings.

Moreover, the studies were selected by following pre-determined criteria, which are the major purpose and the date of publication. First of all, the studies conducted and published between 1990 and 2011 were selected to keep the sample recent for the purpose of this study. Secondly, as the review limits its scope to the studies focusing on the educational theories and approaches in relation to achievement/outcome of students in elementary and secondary education, studies to be selected were supposed to examine the student achievement/outcome as the dependent variable on the specified settings, elementary and secondary education. The selected studies were examined in terms their major purpose and studied educational approach/theory, year of publication, publication type, grade level, discipline, research methods/design, and results.

### Sample of the Study

The study included totally 69 studies meeting the criteria for inclusion in Turkish literature. 35 of them were articles from 6 journals mentioned above and 44 of them were master's and PhD theses meeting the pre-determined criteria of the study. The theses were selected from Higher Education Council's (HEC) website. Table 1 represents the number of studies classified by research design, date, and publication status.

Table 1. Number of studies classified by design, date, and publication status (N=69)

Time Period	Research Design		n
	Experimental	Non-experimental	
1990-1994	0	0	0
1995-1999	1	0	1
2000-2004	11	0	11
2005-2009	44	0	44
2010-2011	12	1	13

When the selected studies were categorized based on the journal, it is seen that 13 of the articles were from Journal of Hacettepe University Faculty of Education; 7 from EJER and 7 from Elementary Education Online. The proportions are displayed in Figure 1 below.

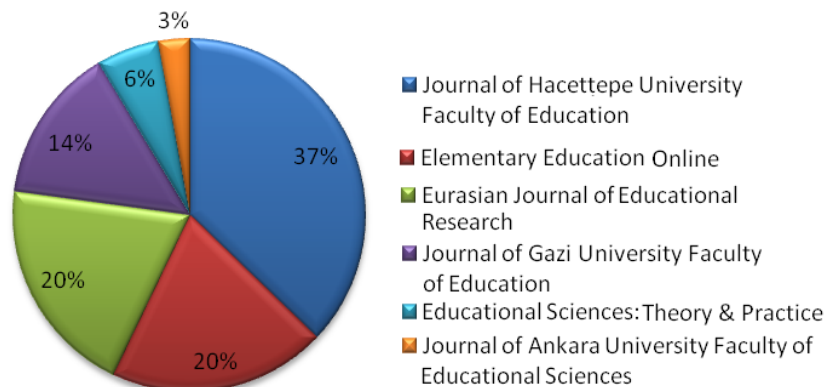


Figure 1. Percentages of Studies Classified by the Journal (N=35)

Lastly, the study included 4 Ph.D. theses and 40 Master's theses which were obtained from the website of Higher Education Council and they were approved and open to access.

### Data Analysis

The studies, which comprised the sample of the study, were analyzed using the content analysis method. As stated in the literature, the content analysis is a data analysis method which utilizes some procedures to make meaningful inferences from a written document (Weber, 1990). All of the studies were firstly categorized based on the journal and the year of publication. Then, they were re-categorized using a table based on their title and aims, publication type, year of publication, the theory, method, or approach used in the study, the target population, used research method, and results. Besides content analysis, frequencies and percentages were also used to display the results in more numerical and visual ways.

## RESULTS

### Studied Theories, Methods, and Approaches

The results obtained from 69 studies showed that there were main educational theories, methods, and approaches studied by the researcher as displayed in Table 2.

Table 2. *Educational Theories and Approaches (N=69)*

Theory/Approach	<i>F</i>	%
Technology-based learning theory/approaches	20	29.0
MI Theory	18	26.1
Constructivist learning approach	10	14.5
Problem-based learning approach	5	7.2
Cooperative learning method	4	5.8
Project-based learning approach	3	4.3
Inquiry-based learning approach	2	2.9
Brain-based learning approach	2	2.9
Active learning theory	2	2.9
Others	4	5.8

As Table 2 shows 18 of the studies were on the effect of MI Theory; 20 of them were on Technology-based learning theories and approaches. The studies on technology were mostly on Computer-assisted learning, Programmed Learning, and Web-based educational activities. Moreover, 10 of the studies were on Constructivist learning approach. The researchers themselves or the teachers used some constructivist methods and techniques throughout the semester or an academic year; and the researcher examined the effect of these methods and techniques on the students' success using various measurements. Lastly, 5 of the studies were on the effects of Problem-based learning approach. Other than these three educational methods and approaches, the other approaches were also observed to be used in educational research in relation to student outcome. These theories included Cooperative learning, Project-based learning, Inquiry-based learning, Brain-based learning, and the Active learning approaches.

On the other hand, the publication dates of these studies were also examined by the researcher as part of this study. The results are presented in Table 3.

Table 3. *Most Frequently Used Educational Theories and Approaches by Publication Date*

Theory/ Approach	Date	<i>f</i>	%
MI Theory	2006	8	44.4
	2005	3	16.7
	2010	2	11.1
	2007	2	11.1
	2004	1	5.6
	2003	1	5.6
	2001	1	5.6
Technology Based Learning	2007	5	25.0
	2006	3	15.0
	2005	3	15.0
	2004	2	10.0
	2011	2	10.0
	2002	2	10.0
	2010	1	5.0
	2003	1	5.0
1996	1	5.0	
Constructivism	2007	3	27.3
	2006	3	27.3
	2005	2	18.2
	2008	1	9.1
	2001	1	9.1

Moreover, as seen in Table 3, the most frequently used educational theories/ approaches are Technology-based learning theories/approaches and Multiple Intelligences theory followed by constructivism. These three theories and approaches constitute most of the studies among the ones from 1990 to 2011. In addition, those theories and approaches mostly studied in 2000s: 44.4% ( $n=8$ ) of the MI theory studies were conducted in 2006; 25% ( $n=5$ ) of the technology-based learning theory/approaches studies were carried out in 2007; 72.8% ( $n=8$ ) of the constructivist studies were conducted in 2005, 2006 and 2007 respectively (See Table 3).

When the years of publication of other studies were also considered, it is seen that these studies were generally done after 2000, especially between 2005 and 2009 as displayed in Table 1 above.

### 1. *Disciplines and Subject Area*

Regarding the disciplines and subject areas studied, it was observed that 19 of the studies were conducted in the Science and Technology course; 12 of them were studied in Social Sciences course; 7 of the studies were in Mathematics course; 5 of the studies were applied in Physics course; and the other studies conducted in other areas such as English, Geography, Computer, and Biology (Table 4).

Table 4. *Studies by Disciplines and Subject Area (N=69)*

Discipline	<i>f</i>	%
Science and Technology	19	27.5
Social Sciences	12	17.4
Mathematics	7	10.1
Physics	5	7.2
English	4	5.8
Turkish	3	4.3
Biology	3	4.3
Computer	2	2.9
Geography	2	2.9
Others	12	7.4

As indicated by the results, studies conducted in Science and Technology, and Social Sciences courses are dominant in the target literature in Turkey since 1990. The other subject areas constituting the 7.4 % of all were religion, citizenship and human rights, music, chemistry lessons, or multidisciplinary studies.

### 2. *Grade Levels*

The data obtained from 69 studies showed that 21.7% ( $n=15$ ) of the studies were conducted with 7<sup>th</sup> grade students; the sample of the 14.5% ( $n=10$ ) of the studies were 8<sup>th</sup> graders; 15.9% ( $n=11$ ) of the studies were with 5<sup>th</sup> graders; 17.4% ( $n=12$ ) and 11.6% ( $n=8$ ) of the studies were conducted with 6<sup>th</sup> and 9<sup>th</sup> grade students respectively. Other studies were conducted with various grade levels such as 10<sup>th</sup> grade, 3<sup>rd</sup> grade, and 11<sup>th</sup> grade (Table 5).

Table 5. *Grade Levels (N=69)*

Grade Levels	<i>f</i>	%
7 <sup>th</sup> grades	15	21.7
6 <sup>th</sup> grades	12	17.4
5 <sup>th</sup> grades	11	15.9
8 <sup>th</sup> grades	10	14.5
9 <sup>th</sup> grades	8	11.6
10 <sup>th</sup> grades	2	2.9
3 <sup>rd</sup> grades	2	2.9
Others	11	15.9

As observed in the Table 5 above, majority of the studies were conducted with 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> grade primary school students.

### **3. Research Methods**

The studies have some similarities in terms of methodology selected. All of the studies reviewed employed quantitative design, studying the effects of particular theory on student outcome. Among these methods, the main research design was experimental or quasi-experimental design. The researchers conducting these studies generally selected two groups which were experimental and control groups. Then, they implemented an instructional plan prepared by considering basic principles of the selected theory/approach to experimental group. The selected lessons were generally re-designed using the principles of studied methods/approaches, which were integrated into the general course content so that their effects could be tested by the researchers.

Lastly, the mean values of pretest and posttest results among experimental and control groups were compared to see whether the implemented instructional design had an effect on students' achievement/attainment or not. On the other hand, some of the researchers utilized observation and interview results in their studies.

#### ***The Effect of Most Frequently Studied Theories and Approaches on Student Outcome***

Almost all of the studies reviewed found significant mean differences between control and experimental groups in favor of the treatment group studied. In other words, instructional design based on a particular theory/approach had a significant effect on student achievement or attainment. In the study published in one of the journals, the researcher found that the seventh-grade students exposed to the case-based learning displayed significantly more success in science lesson than the control group (Horzum & Alper, 2006). In another study, the researcher used a pretest-posttest experimental design to examine the effect of constructivist learning environment on seventh-grade students' math achievement (Özerbaş, 2007). The results again proved that the students were significantly more successful when compared to the control group with traditional methods. Similar to these studies, other studies also concluded with the significant effect of these methods and approaches on student outcome. The researchers discussed this effect and its reasons besides recommending the use of these approaches and methods in classroom environment to increase the student achievement.

On the other hand, in three of the studies (2 of them were on technology-based theories and approaches and one of them was on MI theory) a significant effect was not found. To give an example, in one of the Ph.D thesis, the researcher investigated the effect of multiple intelligences on the 8<sup>th</sup> grade students' success in Human Rights and Citizenship course. At the end of the experiment, the researcher found no significant change in the achievement level of the students when compared to the control group.

## **DISCUSSION**

The main motivation of this study was to explore the current dispositions on educational theories and approaches investigated in relation to the student achievement or attainment in educational context of Turkey. The basic contribution of this review would be to create a clear interpretation of the existing research for policy makers, curriculum developers, and researchers interested in the relationship between application of educational theories in classroom setting and student achievement. The results showed that most frequently studied educational theories and approaches were Technology-based theories and approaches, MI theory, and Constructivism. Also, these theories and approaches were found to be mostly studied in science and technology, social sciences, and mathematics courses. The reviewed studies were generally conducted in primary level; and experimental design was utilized resulting mostly with the significant effect in favor of the theories and approaches.

To start with, the results of the analyses indicated that the Technology-based theories and approaches, MI theory, and Constructivism were most commonly studied especially in the years 2005, 2006 and 2007. When the nature of these theories and approaches are examined, it is seen that they have been developed in recent years and studied by the educators in other countries as well. Among these, Technology-based learning theory/approaches were also found to be most frequently studied theories/ approaches in relation to student outcomes in Turkish educational context in the last two

decades. As known, together with the rapid technological developments in the world during the recent years, technology has been more integrated into the educational activities and programs to increase the effectiveness of learning environment for the learners (Smeets, 2005). For that reason, this popularity and rapidly growing use of new educational technologies has given way to amplifying demands for new and continuing processes and outcomes of teaching and learning (Alexander & Boud, 2001; Boud & Prosser, 2002). The effectiveness of these processes and outcomes has been examined through the educational research and the popularity of the technology in human life has been reflected upon the research on technology-based theories.

Moreover, MI theory developed by Howard Gardner (1993) has a world-wide popularity. Since the book on MI theory was published, there has been an increasing trend to integrate the multiple intelligences into educational practices and discuss its effectiveness to improve the student outcomes (Armstrong, 2000; Christison & Kennedy, 1999; Nolen, 2003; Rubando, 2002; Vincent & Ross, 2001). Parallel with the trends in educational research, MI theory was also found to be most frequently studied theory in relation to student outcomes and attainment in this study. There are numerous researchers studying and examining MI theory after the year 2000 (Bümen, 2004; Demirel, 2002; Selçuk et al; 2004; Yavuz 2004).

In this study, another most frequently studied approach in relation to on student outcomes in recent years was found to be constructivism. As elucidated above, the reason for this popularity might stem from the recently implemented primary school curricula, which was stated to be based on constructivism by Ministry of Education (The Board of Education, 2005). Moreover, constructivism has been of the mostly discussed approach in educational area in the last decades both in national and international literature (Erdem & Demirel, 2002; Fidan, 2003; Powell, Farrar & Cohen, 1985; Sherman & Kurshan; 2005).

Furthermore, the reason for studying these specific approaches and theories might be sought in the literature of teacher education, as the teacher education in Turkey has generally been in line with the developments in the society (Üstüner, 2004). In recent years, there have been considerable efforts of Higher Education Council (HEC) to renovate the teacher education programs together with The World Bank (HEC, 1998; HEC & The World Bank, 1999). The newest change was initiated in 2007 (HEC, 2007). In the new programs, these new concepts, theories, and approaches - Constructivism, Multiple Intelligences theory, Computer-assisted instruction, and others- have been integrated into methodology courses in universities. Starting from 1998, the integration of these current educational theories, concepts and approaches, and their effects on teacher education have been studied by researchers. For instance, Gürşimşek (1998) suggested that the new concepts, theories, approaches, practices such as constructivism and MI theory should be the part of instruction in teacher education. This changing face of the research in teacher education might have an influence on the increasing use of these approaches and theories in educational context in Turkey in the last decades.

Another result revealed in this study was that most of the studies on student outcomes were centered upon certain disciplines and courses, which were science and technology, social sciences, and mathematics in primary grade levels particularly in 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> grades. The reason for this might be that these subject areas are the main ones in the new primary school curriculum, and the international exams have been established more on these core disciplines. In addition, as part of the curriculum development activities the content and the methodology used in these courses were revised on the light of new approaches adopted by the Ministry of Education.

It was also found in the study that the research design in those studies was experimental design. Through experimental design, the researcher can go beyond description and prediction (Fraenkel & Wallen, 2003, p.268) to drawing conclusion about the population based on the findings obtained from the experiment. In addition, as Krathwohl (1998) proposed: "For them [some social scientists], experimentation is the most effective method for creating a consensus around the existence of a cause-and-effect relationship." For that reason, the nature of the experimental design is more suitable to test the effects of the theories, approaches, ideas, or concepts on the learners and teaching-learning process.

Lastly, the results of the study revealed that the effects of those studied theories and approaches –MI theory, Constructivism, and Technology-based learning were found to be significant nearly in all of the studies, except for three, in this study. This might be an indication of the



effectiveness of those theories and approaches in educational context. At this point, although the information provided by this review is meaningful for policy debates, there are many important questions that remain unanswered. To illustrate, these results would differ if outcomes like gender, socio-economic status, parent education, and computer and technology opportunities of students at their homes were examined. Moreover, for many teacher characteristics such as experience, and education, the results may not be conclusive. Although the success of the instruction eventually depends on teachers regardless of the theory of the instruction given in the classroom, according to Fletcher (2003), there are fewer students left behind when the technology-based instruction is centered. Furthermore, MI theory has been also proved to have the positive effects on students' attainment (Armstrong, 2000). Constructivism is also stated to provide wide range of learning opportunities to increase student success (Wilson, 1996). The presented studies indicated the effectiveness of these theories and approaches on student achievement. For that reason, this signs that the rationale behind the reform movements –integration of new theories and approaches into new programs in primary and secondary level- seems to reach its purpose as long as they are utilized in the right content, time, and environment and with an effective management.

The general conclusion of the presented study is that some educational theories and approaches are systematically related to student achievements, which are large enough to be educationally important. To sum up, the results in this study indicated that the mostly studied theories and approaches in the educational area in current years have been affected by the socio-cultural, technological and scientific changes as well by the needs of the society in Turkey. It was also found that the educational, more specifically instructional practices developed and implemented on the base of recent theories and approaches had a significant effect on student achievement at primary level social studies, science and mathematics courses. Therefore, these results in relation to theories and approaches have considerable implications for curriculum development, instructional design, teacher decision-making, and assessment issues should be taken into consideration seriously. In this review, the findings suggest that the curriculum developers need to take these significant findings into account and integrate the teaching-learning methods and activities suggested by those theories into the related programs. For further studies, this study could be extended to international platform from the Turkish case to gain more insight in the effect of recent theories and approaches on student outcomes in other cultures.

Lastly, the findings from this study have implications not only for curriculum development, but also instructional design, and teacher education. Although one might want to find a single solution for all the problems in classroom learning and teaching, there is not a sole method that can solve all those problems in such broad applications (Liang & Gabel, 2005). The findings of the present study have indicated that different instructional strategies and curriculum theories have positive effect on the student attainments in different classroom settings, grade levels, and disciplines. Therefore, curriculum specialists and teachers should be aware of the characteristics of students, and the type of theory/approach which is more suitable for the instruction by considering the physical facilities of the schools and needs of the society.

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# Öğrenci Başarısını Etkileyen Teori ve Yaklaşımlar Üzerine Yapılan Araştırmalar: 1990-2011

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**ÖZ.** Bu çalışmanın amacı öğrenci başarısını etkilediği düşünülen yeni yaklaşım ve teoriler üzerine yapılan araştırmaların içeriğini incelemektir. Bu amaçla Türkiye’de eğitim alanında tanınmış dergilerde yayınlanan toplam 69 çalışma incelenmiştir. Araştırmanın sonuçları, Türkiye’de öğrenci başarısı üzerine en yaygın çalışılan yaklaşım ve teorilerin çoklu zekâ teorisi, teknoloji temelli teoriler ve yapılandırmacılık yaklaşımı olduğunu ortaya koymuştur. İncelenen çalışmaların çoğunluğunun deneysel araştırma desenine sahip olduğu ve bu çalışmalarda deneysel gruplar lehine anlamlı farklılık bulunduğu gözlenmiştir. Çalışmanın sonunda, elde edilen bulgular tartışılmış ve bazı önerilerde bulunulmuştur.

**Anahtar Kelimeler:** Eğitimde yeni eğilimler, eğitim araştırmaları, öğretim yaklaşımları, öğrenci başarısı.

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## ÖZET

**Amaç ve Önem:** Bilindiği gibi, eğitimciler, eğitim araştırmacıları ve eğitimle ilgili önemli kararları veren kişiler sürekli olarak eğitimin kalitesini artırmak ve böylece öğrenci başarısını yükseltmek çabasıdadırlar. Bu bağlamda, öğrenci başarısını etkileyen faktörler birçok araştırmacı tarafından sıklıkla araştırılmaktadır. Öğretmenin niteliği, öğrenme ortamlarının fiziksel özellikleri, öğrencinin giriş özellikleri gibi birçok faktörün yanı sıra sınıfta kullanılan öğretim yaklaşımı ve teorilerinin de incelenmesi öğrenci başarısını artırmak konusunda oldukça önemlidir. Özellikle günümüzde eğitimle ilgili birçok teori ve yaklaşım öne sürülmektedir. Bunlardan bazıları yapılandırmacı yaklaşım, bilgisayar-destekli öğretim, çoklu zekâ kuramı, probleme dayalı öğrenme ya da aktif öğrenme şeklinde sıralanabilir. Bu teori ve yaklaşımların sınıflarda kullanıldıklarında öğrenci başarısı açısından doğurduğu sonuçlar son yıllarda birçok araştırmacı tarafından incelenmektedir. Bu kapsamda, araştırmanın amacı 1990 ve 2011 yılları arasında güncel eğitim teori ve yaklaşımlarının öğrenci başarısı üzerine etkisini araştıran çalışmaları içerik açısından incelemektir. Elde edilen bulguların eğitim araştırmacıları ve uygulayıcıların bu konudaki çalışmalarına ışık tutması beklenmektedir.

**Yöntem:** Araştırmada Türkiye’de önemli eğitim dergilerinde yayımlanmış makaleler ve Yüksek Öğretim Kurumu tarafından onaylanmış yüksek lisans ve doktora tezleri içerik açısından incelenmiştir. Çalışmaya, 1990 ve 2011 yılları arasında basılmış ve öğrenci başarısını etkileyen faktörleri ele alan bilimsel yayınlar dâhil edilmiştir. Toplamda 69 adet bilimsel çalışma incelenmiştir. Verilerin analizinde içerik analizinin yanı sıra frekans ve yüzdeler gibi betimleyici istatistiksel yöntemler de kullanılmıştır.

**Bulgular:** Araştırmanın sonuçları Türkiye’de öğrenci başarısı ile ilişkili olarak en fazla çalışılan teori ve yaklaşımların çoklu zekâ teorisi, teknoloji temelli teoriler ve yapılandırmacılık olduğunu göstermiştir. İncelenen çalışmaların çoğunluğunun, deneysel çalışmalar olduğu görülmüştür. Fen-teknoloji, matematik ve fizik dersleri sözü edilen teori ve yaklaşımların öğrenci başarısı üzerine etkisinin en çok araştırıldığı derslerdir. Bu araştırmalar özellikle 2005, 2006 ve 2007 yıllarında yoğunlaşmıştır. Son olarak, çalışmaların çok büyük bir kısmında deneysel gruplar lehine anlamlı farklılık bulunduğu gözlenmiştir. Kullanılan

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teori ve yaklaşıma dayalı öğretim programına katılan öğrenciler diğerlerine göre daha başarılı bulunmuştur.

**Tartışma, Sonuç ve Öneriler:** Elde edilen bulgular, Türkiye’de öğrenci başarısı üzerine yapılan eğitim araştırmaların büyük bir çoğunluğunun eğitimle ilgili teori ve yaklaşımları ele aldığını göstermiştir. Bu teori ve yaklaşımlar özellikle 2005 yılında değişen ilköğretim programlarında da vurgulanan yapılandırmacı yaklaşım ya da çoklu zekâ kuramı gibi teori ve yaklaşımlardır. Bunların dışında günümüzde artan teknolojik olanakların bir sonucu olarak eğitim-öğretimde kullanılan bilgisayarın öğrenci başarısını ne derece etkilediği araştırılmaktadır. Bu araştırmaların sonucunda elde edilen “deneysel grup lehine anlamlı farklılıklar,” derslerde kullanılan farklı yaklaşım ve teorilerin öğrenci başarısını önemli ölçüde etkilediğini göstermektedir. Ancak araştırmaların çoğunluğu yalnızca deneysel desen kullanılarak yapılmış ve özellikle Fen ve Teknoloji ya da Matematik gibi sayısal dersler üzerine yoğunlaşmıştır. Eğitim araştırmacıların bunları dikkate alarak araştırmalarını çeşitlendirmeleri önerilebilir. Ayrıca bu çalışmadan elde edilen bulgular program geliştirme, öğretim tasarımı ya da öğretmen yetiştirme gibi konularda ileride yapılacak çalışmalara ve uygulamalara ışık tutabilir. İncelenen çalışmalarda kullanılan farklı öğretim şekillerinin, yaklaşımların, teorilerin farklı düzeylerde, farklı derslerde ve farklı sınıf ortamlarında öğrencilerin başarısını anlamlı şekilde etkilemesi eğitimle ilgili paydaşların yeniliklerden ve öğrenci ihtiyacına uygun olan yaklaşımlardan uygun şekilde yararlanmasının gerekliliğini ortaya koymaktadır.