ResearchGate

See discussions, stats, and author profiles for this publication at: https://www.researchgate.net/publication/234718098

The Cognitive and Affective Changes Caused by the Differentiated Classroom Environment Designed for the Subject of Poetry

Article *in* Educational Sciences: Theory and Practice · January 2009

CITATIONS
8

READS
51

4 authors, including:



Süleyman Avcı
Marmara University
26 PUBLICATIONS **254** CITATIONS
SEE PROFILE



Makbule Soyer
Marmara University
11 PUBLICATIONS **36** CITATIONS
SEE PROFILE

Some of the authors of this publication are also working on these related projects:

practice of creative thinking and ability View project

All content following this page was uploaded by Süleyman Avcı on 21 September 2020.

The user has requested enhancement of the downloaded file.

The Cognitive and Affective Changes Caused by the Differentiated Classroom Environment Designed for the Subject of Poetry

Süleyman AVCI, Arzu YÜKSEL**, Makbule SOYER***, Suzan BALIKÇIOĞLU*****

Abstract

The purpose of this research is to analyze the cognitive (learning level) and affective (volunteering to study together, attitude towards the teacher and the lesson) changes which are caused by the differential classroom environment designed for the poetry subject in a Turkish lesson of the 6th grade in elementary education. Theory testing technique of case study which takes place in qualitative research was applied in this research. This research was implemented on 22 students who attended sixth grade in a private school in Istanbul. Differentiated teaching design, which was prepared by using station and interest center strategies, was exercised in the subject of poetry in a Turkish lesson for two teaching periods. Data which were obtained via in a depth individual interview with the teacher, focus group interviews with five students, and direct observations were analyzed with structured reporting method. According to the findings, differentiated teaching has a positive impact on children's learning. In addition, it increases the interests of children towards the lesson, help them develop friendship relationships, and augments mutual aid behaviors.

Key Words

Differentiated Instruction, Station Strategy, Interest Centers Strategy, Teaching Turkish Language.

* *Correspondence*: Dr. Marmara University, Atatürk Faculty of Education, Göztepe Kampusu, Göztepe-Kadıköy, İstanbul/Turkey.
E-mail: suleyman.avci@marmara.edu.tr

** Teacher, MEF Schools, Ulus Mahallesi, Dereboyu Caddesi, 34340, Ortaköy, İstanbul/Turkey.

*** Asist. Prof. Dr., Marmara University, Atatürk Faculty of Education, Göztepe Kampusu, Göztepe-Kadıköy, İstanbul/Turkey.

**** Turkish Language Teacher, MEF Schools, Ulus Mahallesi, Dereboyu Caddesi, 34340, Ortaköy, İstanbul/Turkey.

Kuram ve Uygulamada Eğitim Bilimleri / Educational Sciences: Theory & Practice
9 (3) • Summer 2009 • 1069-1084

© 2009 Eğitim Danışmanlığı ve Araştırmaları İletişim Hizmetleri Tic. Ltd. Şti.

Preference of only a single teaching method by ignoring the differences of student traits in educational experiences which are realized in class environments results in failure of a great number of students. This case which prevents people from reaching their potentials drew the attention of authorities who were concerned with the learner. According to Tomlinson (2007), one way for the solution of problems which stem from the use of just one teaching method is the implementation of differentiated instruction which presents different learning ways for the students having different features. Differentiated instruction is a learning experience in which various methods are applied for students to discover the content of the program; activities and processes are regulated for students' significant learning and attaining their own knowledge and skills; and students can make their choices in order to display the things which they learn (Tomlinson, 1995a). Gregory and Chapman (2002) define differentiated instruction as a philosophy rather than an instrument which allows teachers to make plans which will be able to meet the individual needs of different students in the class. This philosophy is based on the meeting of each student's needs. Even though differentiated instruction was proposed about ten years ago, it is not new in terms of practical exercise and theoretical basis. In our country, unified class exercise is a practically significant example of differentiated instruction. Theoretical basis of differentiated instruction is based on cognitive learning theory and on the results of research which were conducted upon student development (McTighe, & Brown, 2005).

At the present time, differentiated instruction is based on the studies of Tomlinson. Tomlinson (2000) compiles the principles of differentiated instruction as follows: *(i)* The students who are in the same age groups are fairly different from one another in terms of their past experiences and preparedness. *(ii)* These differences have crucial influences particularly on the content and educational process. *(iii)* The teacher supports students while they accomplish responsibilities which are beyond of their abilities increases the success of students. *(iv)* School learning of the students augments more when the subjects who are learnt are associated with the real life. *(v)* Learning of the students becomes higher when they are provided with authentic learning opportunities. *(vi)* When students feel that they are trusted and appreciated at schools, their learning increases more. *(vii)* Noticing and supporting the abilities of each student ensure going above the school targets.

In the class environment where differentiated instruction is exercised, the teacher stresses the main points of subjects rather than their details, accepts the differences of students and expects them to behave as they are, evaluates the students in the learning process, makes alterations in content, process, and product in accordance with the features of students, prepares appropriate learning environments for students since the responsibility in learning belongs to the student, and lastly defines different learning ways for the students who have different features (Tomlinson, 2007).

In order to prepare a differentiated class environment, Tomlinson (1995b, 1999) suggests pre-learning of students to be determined, and then a teaching program to be designed. Different learning ways are determined by means of various strategies by considering foreknowledge, learning styles and features of students such as multiple intelligences. The teacher may use different techniques such as marking with the finger, making fist and facing with reality while evaluating the process, as well. In addition, the teacher differentiates his or her expectations from students and sets them free regarding individual or group studies. In this research, thumb it as process evaluation technique, making fist (thumb it is a self-evaluation technique which is based on fivefold collocation and which is made by benefiting from fingers of a hand) was applied; and as process design strategy, station and interest centers technique was used (Stations are the centers where students can accomplish various learning activities simultaneously. Even though centers resemble stations in that both of them exist in the same environment, they are aimed at teaching the similar subjects via different ways in the centers) (Tomlinson, 1999, 2007).

In the conducted research, findings displaying that student motivation, attendance in the lessons, learning level, interest for learning, and achievement increase in the class environments where differentiated instruction is exercised were found (Baumgartner et al., 2003; Fahey, 2000; Lewis, & Batts, 2005; Tieso, 2005).

An approach putting the students at the center of teaching has been displayed since the change which was made in the primary education program of our country in 2005. The new program is based on constructivism and multiple intelligence (Talim ve Terbiye Kurulu Başkanlığı [TTKB], 2008). In teachings which are based on both of these approaches, the teacher is adirector and students are responsible for their

own learning. Educational process is regulated in accordance with the interest and needs of the students, and the student is enabled to be active in the process. Learning process is taken into account in the evaluation. In addition, the student must be set free in the products which are expected from him or her (Demirel et al., 2006; Yurdakul, 2005). Accordingly, differentiated instruction holds importance in terms of being suitable for the philosophy of the new primary education program and presenting various alternatives to the teachers who serve their time in primary education stage. From this point of view, it is thought that results which will be obtained will provide beneficial knowledge for teachers and academicians who work in this field.

The purpose of this research is to analyze the cognitive (learning level) and affective (volunteering to study together, attitude towards the teacher and the lesson) changes of the students, which are caused by the differential classroom environment designed for the poetry subject in a Turkish lesson of the 6th grade in the elementary education. In this research, the hypothesis that "differentiated education will have a positive effect on the cognitive and affective behaviors of the students", which was introduced in accordance with the theory testing method of the case method, was tested.

Method

Research Model

In this research, "theory testing technique" (Bassey, 1999) of "case study" method which is one of the qualitative research methods was used. Case study method is "the in depth examination of the phenomenon when it takes place and in the real life state" (Yin, 1994 cited in Tellis, 1997; Stake, 1995 cited in Bassey, 1999, p. 26). According to Yin (1994), case study method "allows exercise of many data collection instruments such as interview, observation, archive review and diary which are necessary for hypotheses to be tested."(Cited in Tellis, 1997). According to Bassey (1999, pp. 63-64), there are theory testing, theory exploration, storytelling, drawing pictures, and evaluation techniques within the scope of case study method.

The Research Group

This research was implemented on the students who attended 6B class in a private school in Istanbul. The research school was preferred as two of the researchers worked therein. 6B was preferred since the Turkish teacher who agreed to take part in the research was teaching this class. 22 students took part in the research, and nine of them were males while 13 of them were females.

Data Collection Instruments

In this research, multiple data collection instruments were used. According to Yıldırım and Şimşek (2000), gathering data from various resources enables the researchers to make different comments.

The Gregoric Learning Styles Inventory: For determination of students' learning styles, a learning styles inventory which was developed by Gregoric and adapted to Turkish by Ekici (2002) was used. This inventory is in fivefold Likert type, and has four sub-dimensions. The internal consistency coefficients determined by Cronbach Alfa were identified as .72, .73, .69 and .81 for concrete consecutive, concrete random, abstract consecutive and abstract random, respectively. This inventory was selected as it was suggested for determining the personal differences of the students in the differentiated education applications (Gregory, & Chapman, 2002).

The Multiple Intelligence Scale: Multiple intelligence scale which was developed by Seber (2001) was used in order to determine the multiple intelligence areas of children. There are 64 questions (eight questions for each area) to determine eight intelligence areas in the scale. The content validity of the scale was studied by consulting an expert. According to the results of the factor analysis conducted with 380 students in order to determine the structure validity, the scale items were classified in eight sub-dimensions. According to the results obtained with the test reliability, the reliability coefficients of the scale are .86, .97, .85, .95, .95, .77, .92 and .96 for verbal, mathematical, visual, physical, musical, social, internal and natural intelligence types, respectively. This scale was administered with the aim of collecting data so as to form interest centers in accordance with multiple intelligence areas of the students and to differentiate student groups.

Form for Determining Past Learning Experiences of the Students: Past learning experiences of children were studied in order to determine beginning level of poetry subject and to form source for the process of constituting learning state. The program was developed by the researchers by taking the opinions of developmental area experts. There are three questions in the form. The form was answered by the Turkish (lesson) teacher of 6-B class and guidance counselor.

Self-Structured Observation Form: It was aimed to determine the behaviors of teachers and students in the implementation processes of the method via observation form which consisted of 19 target questions which were prepared by the researchers.

Self-Structured Student Interview Form: Nine target questions were prepared by the researchers with the aim of taking students' opinions with regards to the station studies of differentiated instruction method.

Self-Structured Teacher Interview Form: This form consisted of ten target questions which were prepared by the researchers with the aim of taking lesson teachers' opinions with regards to station studies of differentiated instruction method.

Instructional Design

Instructional design was constituted with common study of the researchers and Turkish (lesson) teacher.

The education was designed for the poetry subject in the Turkish lesson of the 6th grade in elementary education. The poetry subject is composed of the subtitles such as pause, liaison, rhyme, syllabic meter and redif (repeated words or syllables with the same meaning). Three teaching periods (each period lasts for 40 minutes) were determined as the duration. Lesson subject and acquisitions were taken exactly as determined by the Ministry of Education.

For the first period, a teaching program in which the teacher would be active was constituted. PowerPoint presentation materiel was prepared by the teacher of lesson for this teaching period. As for the other part of two periods, station and interest centre strategies were implemented within the scope of differentiated education design. The station was accepted as primary strategy, and interest centers were formed for students fulfilling their stations to be able to make different studies on the

same subject in accordance with their own interest areas. In the station strategy, five stations in which there were activities regarding education of the subject of poetry were established. Stations were regulated from one to five according to the difficulty degree. Four interest centers were constituted in accordance with interest centre strategy. The first one is the review of poetry pages from the Internet; the second one is the step by step realization of a presentation regarding content and form in the poetry; the third one is the examination of examples by scanning sources related to the poetry from the library; and the last one is listening poetry from a poetry cassette.

Administration of Data Collection Instruments

Data collection instruments were administered in three stages which were antecedent implementation, research implementation and terminal implementation in accordance with their implementation times.

Antecedent Implementation: In this stage, the Gregoric Learning Styles Inventory and Multiple Intelligence Scale had been implemented three weeks before the research began with the aim of determining students' features in order to constitute teaching design study and learning groups.

Form for determining past learning experiences of the students had been implemented by the researchers by a face to face interview with the Turkish (lesson) teacher and guidance counselor three weeks before the research began. The lesson teacher had been given given information by the researchers about station and interest center strategies two weeks before starting the implementation of instructional design. Moreover, the researchers displayed examples from publications regarding this subject. The teacher had informed the whole class in detail about strategies one week before the implementation.

Research Implementation: Before beginning the implementation of station and interest center strategies, the teacher had made a presentation to the class with power-point presentation material related to the subject of poetry for a teaching period by using the method of direct speech. After this study, the levels of the students had been determined by applying making thumb it method for individual evaluation. Then, the teacher informed the students about the stations at which they would begin. Activities were completed in two teaching periods (40+40).

In station and interest center implementations, the teacher and students were observed by observers both of whom were program development experts via direct observation method, and the observation results were recorded.

Terminal Implementation: In this process, an in depth individual interview was conducted with the teacher, and a focus group interview was conducted with the students. Five students who had different features in terms of lesson success, attendance in group process, and gratification from the implementation were chosen by the teacher for focus group interview. The focus group interview was preferred to gather more information, in a short time (Kruger, 1994 and Morgan, 1988 cited in Nassar-McMillan , & Borders, 2002). The interview made by the researcher lasted for 45 minutes and the speeches were recorded by the courtesy of the students. The in depth interview which was conducted with the teacher lasted for 20 minutes, and speeches were recorded.

Data Analysis

Sound recordings which were obtained from the interviews with the teacher and students were analyzed and put into writing. As for the observer notes, they were arranged and transferred to the computer environment. Structured reporting technique was used in analysis of interview and observation data. Themes were constituted by depending on interview and observation notes.

Results

The findings which were obtained from student and teacher opinions and observer notes for the hypothesis of "differentiated instruction has a positive influence on the students" were presented below.

The Influence of Differentiated Instruction on Students' Learning

It is understood from the student and teacher opinions that differentiated instruction has a positive influence on students' learning. The following expressions of the students can be considered as indicators of the fact that they learnt the subject: " I have become better at lessons after the station study;" "In my opinion, this study is the most efficient one. I

have gained also the reinforcement opportunity;" or "Now, I know how to make rhyme order;" "I believe that I can recite the subject of poetry." Students consider themselves in the capacity of reciting the subject indicates that learning was realized at the highest level. It is possible to see the reason of the fact that students learnt the subject better via differentiated instruction in their own expressions. As it can be understood from the expression of "I have already learnt more knowledge than my friends," students' reciting the subject to one another in this process is the first one of the reasons which increases the learning. Another reason is the fact that the problem of not comprehending the subject because of students' making noise and cracking jokes in the whole group education is not encountered in this study. It is because of the fact that the noise made by the other groups did not prevent the learning of any group in this implementation. The following expressions are the opinions which prove that the students are influenced by the noise in the class negatively: "When the teacher explains… I cannot focus my attention, since there are some friends of mine with me, and one of my friends cracks jokes and speaks too much; " "I could not learn anything in this subject as they (classmates) were cracking jokes while power-point presentation was being made." The last one of that implementation's reasons which augments learning is that students correct the errors of one another in their own group instantly. The expression of "my friends corrected the points which I misunderstood." can be regarded as an evidence of it.

The opinion of the teacher also implies that this implementation has positive influences on the learning of the students. The teacher considers all students' writing poetries appropriate to their rules as a criterion of their learning the subject of the poetry. Another point which is understood from the teacher opinion is that self-reliance of the students regarding writing poetry increases at the end of the process.

Interactions within the Class

This implementation led to the development of new friendship relationships and increased existing relationships among the students. In addition, the skills of lending help and taking help developed among students. The following expressions can be regarded as indicators of mutual aid: "Sometimes, he helped me;" and "We benefited from each other very much in this study." The following ones may be considered as po-

inters of the developing friendship relationships: "I learnt about his features which I did not know previously;" "I made sincere friends." and "I became acquainted with many of my friends closely." Teacher opinion and observer notes also support that there is a development in mutual aid and friendship relationships among the students.

Teacher Guidance

In this study, the teacher performed his/her guidance task in accordance with differentiated instruction. It is understood from the opinions of students and the teacher that the teacher helped constantly to the groups whenever they had difficulty and directed them accordingly. One of the observers made statements which supported teacher and student opinions. Another finding which was mentioned by a student and an observer is that the teacher is very active in the process. The teacher did not complain about it, but it must be taken into consideration that the teacher's being active so much may lead to tiredness, and thus to abandon the method. Even though class size was small, the teacher became very tired in the process which may be an indicator of the fact that teachers working in crowded classes become more tired during the instruction implementations of differentiated education.

Opinions of Students and the Teacher Regarding Differentiated Instruction

Considering student and teacher opinions and observer notes, it is realized that differentiated instruction was found enjoyable by students, and that it was liked more than the whole group education. Students mentioned that learning together with their friends was enjoyable, and that they shared their opinions with others and they learnt some things from their group friends. The following expressions of the students support the opinion which is expressed above: "It was enjoyable, and since I did not do … individually, I gained the opportunity of learning some points from other friends." and "it was better than the regular lesson, and learning together with my friends was more entertaining." The teacher also says that students' interest in the station study is higher than the whole class education. Moreover, the teacher mentions that students perceive the station study as a competition, and so they follow one another, which accelerates the implementation. From the observer reports, it is seen that students liked this implementation very much.

The Problems Encountered in the Process and Suggestions for These Problems

Analyzing the students' opinions, it is noticed that some problems were encountered in the implementation process. First one of them was that the students became bored during the implementation process. As mentioned by a student, the reason of being bored was the fact that the implementation lasted for a very long time. Another reason may be that the implementation lasted for two teaching periods, and the students made studies in the stations incessantly. Another student mentioned the fact that a lesson which he/she liked was chosen to conduct this implementation as a reason for being bored. Since the Turkish lesson was just one teaching period on the day when the research was conducted, it became necessary to take the period of another lesson.

Second enunciated problem was that the students could not comprehend completely what they would do during the process. That such a problem was encountered even though the teacher explained the implementation to the students may have been resulted from the fact that students either forgot what the teacher had explained to them or did not listen to the teacher while he/she was explaining the points.

Third problem which was stated was nonexistence of materialistic reinforcements in the process. As a feature of station implementation, exterior motivation elements were not given due to the presumption that students would be intrinsically motivated in the process.

The last problem was difficulty and lasting for a long time of the activities in the second station. The teacher also mentioned that there was a false step in the regulation of the activities in the stations and in the sequence of the stations. As a reason of this condition, the teacher mentioned that the structure existing in his/her mind regarding the difficulty and sequence of the activities did not suit the implementation. Observer notes display that the students had difficulty in the second station.

Another problem put forth by the observers (not mentioned by students or the teacher) was the fact that timing was not arranged well. According to the observers, just one group could begin interest centers because of the time problem. It is because of the fact that all of the groups wanted to walk around all of the stations. Therefore, there was no time to begin interest centers.

Discussion and Conclusion

According to the views of the students and teachers, it can be said that differentiated education has a positive effect on students' learning. While some students stated that they consolidated their knowledge, others stated that they improved their knowledge and learned at such a level that they can even teach other people. Moreover, the teacher said that students could readily write a poem at the end of the application, which was the indicator of a good learning process. Students explained why they learned the subject well with the facts that they cooperated with their friends, there were not any disturbing factors such as noise or jokes during the learning process and their mistakes were instantly corrected by their friends. Although the noise made during the application was higher than the noise made during the whole group education, students did not find it disturbing, which can be considered as an indicator that students completely concentrated on learning. The teacher stated that the reason for the effective learning was the different applications appealing to different learning styles. Therefore, it can be thought that the enriched education environment created by differentiated education, cooperation between the students and the consideration factors which focused on instant correction by the peers and on learning have positive effect on the students' learning. The result that differentiated education has a positive effect on learning is supported by many research (Baumgartner et al., 2003; Beecher, & Sweeny, 2008; Lewis, & Batts, 2005; Richard, & Omdal, 2007; Tieso, 2005).

The differentiated education applications enabled new friendships to develop between the students and enabled the already existing relationships to be improved, according to the views of the students and the teachers and the observer reports. That the teacher takes the differences such as learning style, multiple intelligences, and learning level into consideration and directs the students to study together and help one another in forming the learning groups can be seen as the factors which encourage them to socialize. In addition, the obligation of doing the group activities together and the freedom of individual communication excepted during the class activities during the 2-hour application might have caused the cooperative behaviors to develop and the friendships between the students to be improved. Students are generally not allowed to communicate one another face to face during the whole education. Moreover, the sequential order of seating is not appropriate for such

a communication. However, in differentiated education in general and the station strategy in particular, the group studies enable communication between students to be improved as they are conducted with face to face communications, they oblige an interaction between the studies and allow the student-student communication (Tomlinson, 1999). As the cooperation and the interaction between the students in this development process and their teachers are of great importance (Senemoğlu, 2007), the use of this strategy at this level of education has vital importance in terms of adopting cooperative and communicative behaviors. According to the views of the teachers and the students and the observer reports, differentiated education was found entertaining and appreciated more than the whole group education by the students. Students enjoyed especially learning together with their friends and learning from their friends in this application. The teacher stated that the students conceived this application as a competition and therefore, the application was enjoyable. The reasons why the students found differentiated education enjoyable except for the reasons stated by the students themselves can be the use of a different strategy in which the students are active, the performance of the application in a different place out of the class, the improved communication between the students during the study, a more independent environment for the students than the whole classroom education. It is a well known fact that attitude towards the course has an encouraging effect on the learning behaviors of the students (Senemoğlu, 2007). Therefore, that the students liked the strategy might have caused them to develop a positive approach to their academic assignments and to increase their interest in the course. Similarly to the findings of this research, in the research carried out by Tieso (2001) and Fahey (2000), it was found that differentiated education applications increased the students' interests in the course.

Although differentiated education was generally liked by the students, there were some application-oriented problems. The first one was that some students got bored. The reasons why they got bored might be that the application lasted two hours without any break and the students continuously studied in the stations. Therefore, we can deduce that it is necessary to take breaks between the courses even if the students are active during the process. The second problem encountered was that some students did not understand what they should do. In spite of the fact that the teacher explained the application, this might have been arou-

sed from the fact that the students forgot what they were told or they did not listen to the teacher for this problem disappeared after a while when the applications started. In addition, another reason can be that the students did station studies for the first time. Another problem was the lack of the concrete reinforcers in the process. The reinforcers were not ignored by the researchers but it was a conscious choice. Because differentiated education rather focuses on the internal motivation factors such as inner curiosity and learning desire (Tomlinson, 2007). However, it is possible to be flexible to use the external reinforcers which support inner motivation. The last problem was that the activities in the second station were difficult and lasted long. The reason for this problem can be the difficulty of the activities and the inconsistency between the application and the structure related to the order of the activities in the teacher's mind. The abovementioned problems can be solved as getting experienced in time. For example, in future studies, the time spent in the stations can be balanced, the difficulty of the stations can be regulated and small presents can be given to students who accomplish their duties in the station.

According to the findings obtained in this research which was conducted with the aim of determining the influence of differentiated instruction implementation on students, it can be concluded that differentiated instruction generally, and station and interest center strategies specifically, are appropriate for the teaching of primary education sixth grade lessons. The teacher's putting away the problems encountered during the implementation will enable implementation to be more effective. Application of differentiated instruction in the class environment will lead interests and study motivations of students for the lesson to increase, students' academic successes to augment, friendship relationships within the class to develop and mutual aid behaviors to increase. Consequently, it can be said that differentiated instruction could be used by teachers of primary education for teaching the lessons in Turkey.

References/Kaynakça

Bassey, M. (1999). *Case study research in educational setting*. Buckingham: Open University Press.

Baumgartner, T., Lipowski, M., & Rush, C. (2003). *Increasing reading achievement of primary and middle school students through differentiated instruction*. (ERIC Document Reproduction Service No. ED479203).

Beecher, M., & Sweeny, S. M. (2008) Closing the achievement gap with curriculum enrichment and differentiation: One school's story. *Journal of Advanced Academics*, *19*(3), 502-530.

Demirel, Ö., Başbay, A. ve Erdem, E. (2006). *Eğitimde çoklu zeka*. Ankara: Pegem Yayıncılık.

Ekici, G. (2002). Gregorc Öğrenme Stili Ölçeği. *Eğitim ve Bilim*, *27*(123), 42-47.

Fahey, J. (2000). Who wants to differentiate instruction? We did. *Educational Leadership*, *58*, 70-72.

Gregory, G. H., & Chapman, C. (2002). *Differentiated instructional strategies: One size doesn't fit all*. Thousand Oaks, CA: Corwin Pres.

Lewis, S., & Batts, K. (2005). How to implement differentiated instruction? Adjust, adjust, adjust. *Journal of Staff Development*, *26*(4), 26-31.

McTighe, J., & Brown, J. (2005). Differentiated instruction and educational standards: Is détente possible? *Theory Into Practice*, *44*, 234-244.

Nassar-McMillan, S. C., & Borders, L. D. (2002, Mart). Use of focus groups in survey item development. *The Qualitative Report [online-serial]*, *7*(1). 10.08.2006 tarihinde http://www.nova.edu/ssss/QR/QR7-1/nassar.html, adresinden indirilmiştir.

Richards, M. R. E., & Omdal, S. N. (2007). Instruction on academic performance in a secondary science course. *Journal of Advanced Academics*, *18*(3), 424-453.

Seber, G. (2001). *Çoklu zeka alanlarında kendini degerlendirme ölçeginin gelistirilmesi*. Yayımlanmamış yüksek lisans tezi, Ankara Üniversitesi, Ankara,

Senemoğlu, N. (2007). *Gelişim öğrenme ve öğretim kuramdan uygulamaya*. Ankara: Gönül Yayıncılık.

Talim ve Terbiye Kurulu Başkanlığı (2008). *Yeni ilköğretim programları.* http://ttkb.meb.gov.tr/ogretmen/modules.php?name=Downloads&d_op=viewdownload&cid=48 adresinden 10 Aralık 2008 tarihinde edinilmiştir.

Tellis, W. (1997, Eylül). Application of case study methodology. *The Qualitative Report[online-serial]*, *3*(3). 10.08.2006 tarihinde, http://www.nova.edu/ssss/QR/QR3-3/tellis2.html, adresinden indirilmiştir.

Tieso, C. (2001). Curriculum: Broad brushstrokes or paint-by-the numbers? *Teacher Educator*, *36*, 199-213.

Tieso, C. (2005). The effects of grouping practices and curricular adjustments on achievement. *Journal for the Education of the Gifted*, *29*, 60-89.

Tomlinson, C. A. (1995a). *How to differentiate instruction in mixed-ability clasrooms*. USA, Alexandria, VA: Association for Supervision and Curriculum Development.

Tomlinson, C. A. (1995b). Deciding to defferentiate insruction in middle school: One school's journey. *Gifted Child Quarterly*, *39*, 77-87.

Tomlinson, C. A. (2000). Reconcilable differences: Standards-based teaching and differentiation. *Educational Leadership*, *58*, 6-11.

Tomlinson, C. A. (1999). *The differentiated classroom: Responding to the needs of all learners*. USA, Alexandria, VA: Association for Supervision and Cirriculum Development.

Tomlinson, C. A. (2007). *Öğrenci gereksinimlerine göre farklılaştırılmış eğitim* (çev. Diye Kültürlerarası İletişim Hizmetleri). Ankara: Redhouse.

Yıldırım, A. ve Şimşek, H. (2000). *Nitel araştırma yöntemleri*. Ankara: Seçkin Yayınları.

Yurdakul, B. (2005). Yapılandırmacılık. Ö. Demirel (Ed.), *Eğitimde yeni yönelimler* içinde (s. 39-65). Ankara: PegemA Yayınları.

View publication stats