

# REFLECTIONS OF TEACHING APPROACH-RELATED KNOWLEDGE, BELIEFS AND HABITS ON TEACHING PRACTICE

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## Abstract

*The present study aims to investigate the reflections of student teachers' knowledge, beliefs, and habits about the teaching approach on their teaching practice. The student teachers cannot apply teaching approaches they know and believe both in their lesson scenarios and micro-teachings. This inconsistency observed between the knowledge, beliefs, and practice mostly stems from the old learning-teaching habits. Changing the system alone is not enough to throw off the old habits. We can only "assume" that the radical changes taking place in teacher training programs or education system are adopted by the teachers even if they do not change the knowledge base, beliefs and more importantly applications of the actors responsible for implementing the changes.*

**Key words:** *beliefs, curriculum revisions, habits, student teachers.*

## Introduction

Until recently, the principles of behavioral approach were dominant in learning-teaching processes of the Turkish Education System. As a recent development, the Ministry of National Education in Turkey has adopted constructivist approach in its program development attempts. Consequently, course contents have been developed through spiral program that reflects constructivist approach. Moreover, learning-teaching processes, evaluation, and assessment methods have been refined according to "new" constructivist approach. These attempts of the Ministry of National Education are reflected in the programs of teacher education. In the faculties where teachers are educated in Turkey, courses and course contents complying with the structure required by the constructive approach have been incorporated into the curriculums of these faculties. The present study looks at the extent to which student teachers can comply with this radical change from behaviorist approach to constructivist approach in the Turkish Education System and how much they can reflect this new approach in their teaching practice. In this study examined the effect of beliefs and old habits on reflection of teaching practices were examined.

Beliefs are comprised of knowledge, emotion, and action. Researchers assert that pre-service teachers' beliefs are a powerful vehicle for providing effective teacher preparation and understanding teachers' classroom practices and behaviors (Hart, 2004, Pajares, 1992 cited in, Parker and Brindley, 2008). Understanding students' beliefs as teacher educators provides them a framework for creating classroom experiences that intentionally support or conflict with the existing beliefs of students (Parker and Brindley, 2008). There are some studies in literature

about the effects of beliefs on practices (Levin and Wadmany, 2006, Schraw and Olafson, 2002, Tierney, 2006). Students' beliefs and opinions about learning and teaching are connected with their experiences. If student teachers can be given more opportunities of practicing in constructivist approach in pre service education the inconsistency between the beliefs in teaching approach their reflections in practice can be reduced (Şeker, 2010). Pre-service and practicing teachers' beliefs about knowledge can change as a result of instruction may influence how and what they learn in teacher education classes, and may influence teaching practices. Beliefs in relation to other important influences on learning to teach and teaching practices, such as stress, commitment, sense of efficacy, and value, may provide information about the adaptability of particular belief composites for teachers at different points in their development (Buehl, 2009). As predicted, students' epistemological beliefs influence their approaches to learning. Epistemological beliefs and approaches to learning act as part of a larger cognitive system to influence academic performance outcome (Phan, 2008).

Our experiences and social environment may have impacts on our behaviors and beliefs. Do we not choose the things recommended by our past learning? Both in-class and out-of-class behaviors are influenced by experiences and old habits. The present study aims at exploring what the reflections of student teachers' old beliefs regarding learning-teaching processes are on their teaching practices.

### **Methodology of Research**

The study is based on a mix-methods research design with qualitative data collection instruments.

#### *Sample of Research*

The purposive sample method is used in this study. Subjects of the study are 79 preservice third year-students teachers of the department of primary science education of faculty of education. Students taking the course of Science and Technology Program and Planning in the spring semester in 2010. In this course, the students of study group learned the principles of program development; basic approaches to program development; the development and components of science and technology teaching in primary school; planning in science teaching; planning of course program and activities; evaluation and preparation of course; daily and annual plans; and general principles, methods and techniques of teaching. One of the objectives of this course is to enrich these subjects with examples from the daily life.

#### *Instrument and Procedures*

Four measurement instruments were used in the study. One of them is the preference list consisting of 38 pairs of sentences. The aim of this instrument is to solicit the beliefs of student teachers about teacher behaviors. One sentence in each pair represents a teacher behavior complying with behaviorist approach and the other represents a teacher behavior complying with constructivist approach. This instrument was used to collect data about the students' beliefs about behaviorist and constructivist approaches. Data collection instrument developed by the researcher includes pairs of sentences, one of which represents the constructivist approach and the other one represents the behaviorist approach. To form sentences complying with the constructivist approach, following resources were capitalized: Boghossian (2006) Charlotte (2007), Cronje (2006), Liang and Gabel (2005), Plourde and Alowiye (2003), Richardson (2003), and the criteria used in the structure of 2005 program of the Ministry of National Education. The sentences in the instrument are structured as follows:

Item 1:

- a. Using cognitive technologies such as classification, analysis, prediction and creation while organizing the subjects.
- b. Using terminologies concerning knowing, repetition, learning rules and principles.

Item 2:

- a. The teacher is not the source of information but a guide.
- b. The teacher is the source of information.

Other qualitative data collection instruments are as follows:

Second data collection instrument used in the study is lesson scenarios written by the student teachers. The students were told that they would not have much difficulty in writing such a scenario because the only thing they would do is to write how they would teach the subject they knew best from their field in the classroom.

The third data collection is lesson observations: lesson observations mainly consist of observations aiming to solicit whether the micro lessons carried out by the student teachers have the traces of behaviorist or constructivist approaches. Student teachers' teaching practice was observed with unstructured observation technique by the researcher.

The fourth data collection instrument is an achievement test aiming to elicit the course success of the student teachers. This test is made up of the questions aiming to test the knowledge level of the student teachers on the constructivist approach; 11 of these questions are at the knowledge level. The student teachers have to find out which of the sentences given are related to constructivist approach.

Teaching learning approach of the applied program was analyzed with 7 true-false type questions, and evaluation approach of the program was analyzed with 9-cell structured grid-type questions. Which of the sample behaviors of the students and teacher belong to constructivist approach and which of them belong to behaviorist approach were analyzed through questions. The fifth data collection instrument consists of an open-ended question aiming to solicit the reasons for the student teachers' ability to use or not use the teaching scenarios they support in their practice.

### *Data Analysis*

Through 38 pairs of sentences similar to those mentioned earlier, the student teachers' beliefs about how teaching should be performed were analyzed. For example, if a student teacher selects option "a" in both of the above given sentence pairs, this can be interpreted as follows: this student has stronger beliefs about the constructivist pedagogy.

The statements in the written scenarios were evaluated to determine whether they comply more with the behaviorist or constructivist approach. For example, the scenario written by NK is as follows:

*Initially, to teach the concept of speed to students, I ask them which speed-related concepts they know and what they think about the importance of speed in our lives. These questions serve the function of warm-up. I present some information as an introduction to the unit. I do some experiments and give some examples from life. In addition to course book, I make use of other resources to explain the subject. At the same time, I use a slide show presenting pictures supporting what I am explaining. Finally, I ask questions to get the answers I could not get at the beginning of the lesson and make an evaluation. I finish the lesson by emphasizing the important points. (Student teacher N.K.)*

When the responses of the student named NK are investigated, it is seen that in the scenario written by this student, it can be said the student made a good start with attention drawing and warm-up activities. On the other hand, the student teacher focused too much on information transfer, directing and intervention. Therefore, this student teacher can be regarded as behaviorist according to his scenario.

*First, I ask students what they know about underground and ground water sources. If the students do not have any information about the issue, I give them some examples from the close surrounding; in this way, I make an introduction to the topic. I show some pictures about the topic. I give some information about underground and ground water sources in our country. (Student teacher G.Y).*

The above scenario is also considered to be behaviorist. Through micro-lesson activities, which of the two approaches, behaviorist or constructivist, is preferred by the student teachers was investigated. Structured observation form was used by the researcher through which the topic of the micro-lesson, whether the topic is taught for the first time, more commonly preferred method or methods, student participation, how students questions are responded by the students were observed. As a result of the observation of the above-mentioned points, it was decided whether the micro-lesson is behaviorist or constructivist.

## **Results of Research**

The student teachers in the sampling of the present study were administered an achievement test as the mid-term examination of the course to solicit the knowledge level of the student teachers about the teaching-learning approach, laying the basis for the program currently in use. The test consists of questions measuring the knowledge level of the student teachers about the constructivist approach. The test values were calculated as follows: Mean: 80.93, Median: 81.00, Mode: 77.00, and Std. Deviation: 5.33. These findings show that the knowledge level of the student teachers about the constructivist approach is adequate.

The 38-item test had sentence pairs, and its aim was to solicit the student teachers' beliefs about the teaching approach. It reveals that the student teachers in general have beliefs favoring the constructivist approach. Almost all of the sentences selected by the student teachers from 38 sentence pairs are related to the constructivist approach. In light of this finding, it can be argued that the student teachers have strong beliefs favoring the constructivist approach. Moreover, the close-ended question directed to the student teachers shows that the student teachers describe their beliefs in the constructivist approach mostly as "good". 59 student teachers (76%) state that their belief level is "good" and 18 student teachers (24%) as "moderate". Both data collection instruments show that the student teachers have strong beliefs favoring the constructivist approach.

In the present study, 56 lesson scenarios were written and 57 micro lesson presentations were performed. Some examples from the scenarios are presented below to show the students' beliefs about the teaching approach.

*...after explaining the subject, I ask some questions about the subject ... I show how to do ... (student teacher E.K.)*

*...while explaining the subject. I present the things which I think necessary with a slide show and power point ... (student teacher B.G.).*

These statements mostly indicate a tendency toward behaviorist approach. When the lesson scenarios of the 56 student teachers were examined, 46 of them seemed to mostly

prefer behaviorist approach and 6 of them seemed to favor both behaviorist and constructivist approaches, and only one student teacher wrote a constructivist lesson scenario. Although the introduction and warm-up sections of the micro lessons are mostly directed toward the subject and objectives, there was not much effort toward the construction of knowledge; the student teachers primarily tried to transfer the information concerning the subject being taught. Observations of the micro lessons revealed that the student teachers' applications mostly reflect the aspects of behaviorist approach.

Both in lesson scenarios and micro lessons the student teachers' knowledge and belief levels are "adequate" about the constructivist approach; however, they did not use this approach much in their applications. When the reasons for this were asked with an open ended question, the student teachers came up with the following responses:

*As it is true for all my friends, the teachers trained in the old program educated me. As indicated by the proverb "you cannot teach old dog new tricks", these teachings have strong impacts on us. In this course that I am taking during my university education, I got to know this new approach. Though we want to adopt constructivist approach in our teaching, we cannot easily get rid of old habits. (Student teacher A.Y.).*

*... throughout my schooling, we have been educated according to behaviorist approach. Hence, we have a tendency to make use of behaviorist approach. This is an approach that penetrated into our minds. On the other hand, the approach we want to use is constructivist approach; we have positive feelings about it. However, unconsciously we tend to teach through behaviorist approach. (Student teacher Z.K.A.).*

*... I think my classmates are also experiencing the same problem because this is how we were educated. I think that we will continue to experience the same problem throughout our teaching career and we will have difficulty in altering it. But the students educated within the current program will be luckier if they choose teaching as a career. In my opinion, the main problem is that we were educated through behaviorist approach. (Student teacher H.S.).*

*... we were educated by the teachers who adopted behaviorist approach. The teacher model in our minds, no matter how wrong it is, is a behaviorist teacher. The novel information we have acquired here may help us to break our chains. At first, breaking old habits is very difficult. We cannot even ask questions comfortably. We behave as our old teachers did but we know this is not correct. However, we cannot save ourselves from the effects of our old teachers. I think that constructivist approach will help us to be more equipped and self-confident. (Student teacher S.S.A.).*

*... the new program seems to be carried out in many schools but in reality what is employed in the classroom is behaviorist approach. Throughout my 13-year long education life, we got used to authoritarian teachers presenting information and obedient students reciting this information; hence, we have great difficulties in applying constructivist approach. Unconsciously we teach same as we were taught. To what extent can we expect from the teachers who are old enough to retire to apply constructivist approach in their classrooms? (Student teacher N.Ş.).*

*... the reason for us not to have a tendency for using constructivist approach can be old habits. We are so strongly affiliated with the behaviors of our old teachers that we cannot change them. (Student teacher B.G.).*

*...the most important reason behind our not applying is that the objectives cannot be understood well and we just transfer some information that we know by heart. (Student teacher F.Ç.).*

The reason why the student teachers cannot reflect their knowledge and beliefs in their applications seems to be that they were educated through behaviorist approach. The student teachers state that it will take some time to alter their deeply rooted habits. Theall and Wilson (as cited in Hativa 2000) found that habits of classroom teaching that are deeply rooted and long-standing seem to be the most resistant to change and the most difficult to help faculty with. Rosenblatt (2004) reports that teachers with flexible skills are younger and less senior at work. Possibly, older people are more constricted by organizational dependencies and therefore are less likely to change their old teaching habits. In contrast, although the participants of the present study are in their 20s, they have great difficulties in applying a new approach even though they have strong feelings favoring it. Some student teachers state that they reflect what they see as a model. As can be understood from their responses, the student teachers believe that their old habits and behaviors of their former teachers in learning-teaching setting have important influences in determining their own behaviors. These findings demonstrate that the student teachers' old habits and behaviors of their former teachers are influential in the application of their teaching approaches.

Student teachers produced totally 127 different reasons to the question regarding why the teacher students cannot apply the teaching approach they favor in their teaching practice. The above-mentioned three reasons (55%) account for more than the rest of the reasons. Moreover, 60 of the participants (76%) think that the old habits cannot be thrown off easily and they were educated through behaviorist approach by their former teachers. These findings show that old habits cannot be easily left behind and the teachers taken as a model have significant impacts on the ways which the student teachers prefer to teach.

The other reasons for the student teachers not applying the teaching approach they know and favor in their teaching practices can be seen in the following responses of the teacher students.

*... Constructivist approach entails cooperation inside the classroom, making research, activating the intrinsic motivation of the students and teacher-student interaction. The biggest problem in applying this approach is lack of time, fixed desks in the classroom, and difficulty of conducting group work in such a physical environment (Student teacher U.T.).*

*... It is due the shortness of time spared for microteaching. How much constructivist can you be within 15-25 minutes? It is due to shortness of the time (student teacher A.Y.).*

*... It is due to indifference on the part of the students. I cannot get the students to participate in the lesson due to their indifference. As not enough responses were given by the student, I preferred lecturing ... (Student teacher M.A.).*

*...I have positive feelings about constructivist approach, yet I got very excited during the micro teaching in the classroom, I was not able to apply the approach fully in the classroom (Student teacher D.Y.).*

*... In behaviorist approach, we were not able to learn something thoroughly. In fact, we realized that recited and forgot what we thought we had learned. Therefore, we support*

*the idea that through constructivist approach it is possible to create better learning experiences. However, as we have not observed enough application of this approach, we cannot apply it in microteaching (Student teacher H.İ.Ş.).*

*...The biggest reason for this is that behaviorist approach is easier to apply than constructivist approach because constructivist approach requires more creativity. Behaviorist approach is teacher-centered and explaining the subject seems to be easier. (Student teacher B.Y.).*

*...I do not think that constructivist approach direct students to discover their abilities and to internalize and learn the information. Students can complete their performance and project works with the help of person outside the classroom, so that they can have good grades. Personally, when I start teaching, I am planning to use classical assessment and evaluation techniques more than alternative assessment and evaluation techniques. (Student teacher M.K.).*

*...It is very difficult for this approach to be widely accepted. In particular, the shortage or absence of laboratory equipment leads the teacher to teach through presentation on the black board and mere memorization. (Student teacher H.G.).*

*...As the new system is student-centered, teachers may want to keep the control in their hands; hence, they may be reluctant to use the new approach. (Student teacher T.U.).*

*... It is because of lack of experience and this can be overcome through a lot of practice... (Student teacher H. A.).*

The student teachers state that they cannot apply the new approach well as they “were educated through behaviorist approach, it is difficult to break the old habits and they take their former teachers as a model.” There are also different responses: The shortness of the time in microteaching, interaction, shortness of time to carry out group work activities, indifference on the part of the students due to the artificial nature of teaching environment, easier application of behaviorist approach when compared to constructivist approach, reluctance of the teacher not to lose the control in the classroom, lack of equipment, lack of support for alternative assessment and evaluation methods, and doubts about the assessment methods associated with this new approach are factors hindering the use of constructivist approach.

In short, the student teachers see the following factors as obstacles in the successful application of new approach:

- Artificial nature of the teaching setting,
- Lack of the time spared for microteaching,
- The nature of constructivist approach requiring more creativity,
- Difficulty experienced in having students’ participation and feedback,
- Lack of experience,
- Excitement,
- Reluctance to lose control,
- Inability to detect others’ contributions to performance and project works.

## Discussion

Our knowledge and beliefs about an object can be viewed as important variables to create the symbols to start our activities associated with the object. Knowing and believing

something is required but it may not be enough for successful application. A student is helped to become aware of the role played by the often-implicit belief in his or her perception of – and behavior in – this and other similar situations (Korthagen, 2004). Kagan (1992) in the review of 27 empirical studies on teachers' beliefs concluded that pre-service teachers use their past experience and beliefs as a filter through which they interpret the content of teacher education (cited in, Mattheoudakis 2007). Mattheoudakis (2007) indicates that student teachers' engagement in teaching practice did not have the expected impact on the development of their beliefs. Student teachers' short teaching experience actually reveals to them the classroom reality and helps them to refine their knowledge and become aware of their personal beliefs about learning and teaching.

Although student teachers prefer the approach, believe in it, and have information about it, they cannot reflect them in their practice. Having belief is a prerequisite to apply the approach. It is highly possible to think that no one can apply something that they do not know and believe in. There are some strong assumptions supporting the idea that beliefs are influential on practices (Schraw and Olafson, 2002), but Wilcox-Herzog argues that beliefs do not affect teaching practices (cited in Schraw and Olafson, 2002). The present study reveals that beliefs of the student teachers are not enough for the application of the approach. The findings in the literature indicate that though beliefs are necessary for people to direct themselves toward applications, they are not enough on their own for the successful application of the approach. Although there are some studies which show that there are both consistency and inconsistency between the beliefs and applications, we think that beliefs are necessary to start the applications but not enough for their successful completion. Why cannot we apply what we know and believe about the teaching approach? It is certain that the cognitive processes involved in the application of principles are not the same as the known theoretical structure and principles of the theory.

In a similar manner, why cannot a teacher who knows what the ideal teacher behaviors are in a teaching approach and believes that these are the correct behaviors apply this approach or at least display behaviors close to the ideal ones? In the present study while investigating the possible answers to this question, the student teachers stated many reasons. The most prominent and outstanding among these reasons is that they were educated through behaviorist approach and hence they cannot get rid of the old habits imposed by behaviorist approach and their former teachers, who were the active implementers of behaviorist approach. Pollack (2007) reports that the teacher behaviors influence their teaching behaviors. Pollock states: "I asked a novice teacher how she had learned to teach. Her immediate answer: I learned from my teachers."

I believe that though they are not very successful in applying the approach, the student teachers' free will has an important role in adopting, selecting and applying a particular approach and method. I think that the student teachers are freer in the new approach than they are in behaviorist approach. However, the tendency to imitate the behaviors of their former teachers whose teaching approach they do not approve of may have some influence on their ability in making a free selection. Student teachers have more opportunities to watch the practices of their peers and senior colleagues than those in any other profession.

Various authors state that teachers have themselves spent many years as students in schools, during which time they have developed their own beliefs about teaching, many of which are diametrically opposed to those presented to them during their teacher education. Beliefs are not very beneficial to becoming a good teacher; however, old beliefs prevail (Korthagen, 2004).

Wiggins and Clift discuss how contradictions occur when student teachers verbalize certain beliefs, but they do not apply these beliefs in their own classroom. Wings and Clift call these contradictions as "oppositional pairs" (cited in, Freese, 2006). Freese (2006) reports that "oppositional pair" involved his stated belief that he knew that his mentor teacher was there to

help him. He acknowledged that his pride and the “fear of looking foolish” got in the way, and therefore he did not want to ask questions. Though the student teacher, Ryan, in the study favors a student-centered approach, he mostly used a teacher-centered approach. Such findings should help us to refine the teacher education system. The major role of a teacher educator is to serve as a bridge between the theory student teachers study at the institution and the actual teaching practice in school (Smith, 2005).

## Conclusions

The findings of the present study show that old habits cannot be easily left behind and the teachers taken as a model have significant impacts on the ways which the student teachers prefer to teach. It can be noted that the knowledge level of the student teachers about the constructivist approach is adequate. The close-ended question directed to the student teachers reveals that the student teachers have strong beliefs favoring the constructivist approach. On the other hand, observations of the micro lessons hold that the student teachers’ applications mostly reflect the aspects of behaviorist approach.

Both in lesson scenarios and micro lessons the student teachers’ knowledge and belief levels are “adequate” about the constructivist approach; however, they did not use this approach much in their applications. Student teachers believe that their old habits and behaviors of their former teachers in learning-teaching setting have important influences in determining their own behaviors (Gupta, 2004). The findings of the present study demonstrate that the student teachers’ old habits and behaviors of their former teachers are influential in the application of their teaching approaches. It is interesting that 76 % of the participants think that the old habits cannot be thrown off easily and they were educated through behaviorist approach by their former teachers. Student teachers were educated through behaviorist approach, they cannot break their old habits easily and take the former teachers as models; thus, they cannot apply the teaching approach they favor in their teaching practice. It can be argued that the success of the school reform movements depends mostly on the teachers’ belief and old habits.

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