

# APPLICABILITY OF THE APPROACHES-RELATED BELIEFS OF PROSPECTIVE TEACHERS

**Hasan Şeker**

Mugla University, Mugla, Turkey

E-mail: hseker@mu.edu.tr, sekerhas@gmail.com

## **Abstract**

*The study reveals that the beliefs of the prospective teachers related to learning-teaching approaches can not find reflections in their practices. The present study investigates whether the prospective teachers' preferences and beliefs concerning the teaching approach find reflections in practices. The study was conducted with two study groups. The first group consists of 70 last-year student teachers of Primary School Teacher Education Department of Education Faculty, and the second group with 33 second-year student teachers at the same department. One of the measurement scales used in the study is the preference list for teacher behaviors consisting of 38 questions each of which is with two options, and the other is the lesson scenarios written by the prospective teachers. The inconsistency between the prospective teachers' beliefs about teaching approaches and their practices can not be accounted for by the perceptions of teacher competences. Incorporating teaching practices into the curriculum of the prospective teachers can narrow the gap between the prospective teachers' beliefs about teaching approaches and their practices.*

**Key words:** *beliefs, teaching approach, teaching practices.*

## **Introduction**

### *Brief Summary of Teacher Education in Turkey*

When the changes taking place in the teacher education system in Turkey in the past 20 years are investigated, it is seen that one of the main problem areas is not being able to create a balance between the theory and practice parts of the courses. The National Education Council, which was convened in 1982, set the agenda as the state and problems of teachers and educational specialists. In this respect, the pre-service training problems in teacher education and in-service training provided for teachers and educational specialists were discussed and suggestions were made in this conference. During the conference, qualitative and quantitative problems in teacher education were separately discussed and it was determined that in order to solve quantitative problems, qualitative problems had been overlooked. In the conference, it was suggested that every type of school teacher should be trained in a well-balanced way in relation to subject knowledge, liberal studies and pedagogy, and this was adopted as the main principle in development of programs for teacher education. Moreover, in the conference, the weights of categories of liberal studies, pedagogy and subject knowledge were discussed. At that time, the weights of these categories were as follows: five out of eight for subject knowl-

edge, two out of eight for pedagogy and one out of eight for liberal studies. But when it came to application of these weights in education faculties, the weights of the courses of educational sciences were below the suggested. In a study, Saylan (1992) concluded that in Turkey, in particular, in the education of secondary school teachers, more importance is attached to subject area knowledge than pedagogy; and hence, novices have difficulties in the application of what they have learned. Moreover, it was also observed that no balance was established between theory and practice in pedagogy courses (Varış and Gürkan, 1992; Özer, 1990, Köymen, 1991, Ustün, 1992; Şeker, 1995).

Due to above-mentioned problems and similar problems in teacher education, within the context of restructuring attempts of educational faculties, “new” program was put into effect as of 1998-1999 academic years. In 1999, the courses included in the programs of teacher education, more place was reserved for applied works. During this process, the quality of applications concerning teacher education was discussed. Moreover, it was decided that the balance between theory and practice was excessively destroyed in favor of theory. As a result of the analysis of the studies in the literature, it was found that some theoretical courses of educational sciences included in the previous programs were far away from instilling knowledge, skills and perceptions in students required for applications in the profession of teaching. Throughout the following years, there have been many attempts to update the programs through panels, workshops, symposiums, non-governmental organizations, changes taking place in programs, and learning outcomes anticipated from the field of European higher education and undergraduate education (Kavak, Aydın and Akbaba, 2007). Integration into European Union and globalization have created a need for educational reform policies in teaching, learning and programs (Güven, 2008). In 2006–2007 academic year, teacher education programs were redesigned. According to Kavak, Aydın and Akbaba, in the new program, the aim is to train intellectual teachers solving problems and learning to learn instead of training technician teachers doing what they are told. Moreover, as a prerequisite of the constructive philosophy of new primary school programs, while the programs are being implemented, it is of great importance that first students should be provided with experiments and experiences and based on these they learn concepts and definitions. On the other hand, another factor that should be taken into consideration is to associate the subject topics with the content of the curriculum developed by the Ministry of National Education for the given grade level and they should be enriched with the examples from the daily life.

In the faculties where teachers are educated in Turkey, courses and course contents complying with the structure required by the constructivist approach have been incorporated into the curriculums of these faculties. However, it can be argued that most of the prospective teachers are educated within the applications that are in line with pedagogy than can be called “behaviorist” in their own learning experiences. The present study investigates whether the prospective teachers have more positive beliefs about the behaviors required by the constructivist approach or the behaviors required by behaviorist pedagogy. Moreover, the study looks at to what extent these beliefs find reflection in their practices; that is, the consistency between the theoretical and/or affective preferences for teaching and the reflections of these preferences on classroom applications. It can be argued that the success of reform movements depends on the teachers’ beliefs about and perceptions of the structure promised by the reform, and the inconsistency between the attitudes and applications may delay the success of reform movements. Therefore, what the prospective teachers’ beliefs about the teaching and learning approach and whether the approach appreciated finds adequate reflections in applications are important? The reflections of theoretical knowledge and beliefs about the teaching approach in teaching practices are also looked at in the present study.

In this respect Pajares (1992: 313) states that the results of view of belief that speak to an individual's judgment of the truth or falsity of a proposition are the judgment that can only be inferred from a collective understanding of what human being say, intent and do. Belief inferred is a reasonably accurate representation of that judgment. On the other hand, Schraw and Olafson (2002) indicate that the term 'epistemological belief' has been used widely for over a decade to refer to a specific belief about knowledge that is part of a broader epistemology. This implies that individuals may have more than one epistemological belief. When some of the studies looking at the reflections of the teachers' beliefs about how the teaching should be performed in their applications are examined, it is seen that beliefs and classroom practices are multivariate and interrelated (Levin and Wadmany, 2006). Teachers' beliefs influence and mediate assessment practices (Tierney, 2006). In addition, the beliefs held by teachers have reflections on instructional practices (Schraw and Olafson, 2002). Thus, educational beliefs of pre-service teachers play a pivotal role in their acquisition and interpretation of knowledge and subsequent teaching behavior and it is also suggested that unexplored entering beliefs may be responsible for the perpetuation of antiquated and ineffectual teaching practices (Pajares, 1992). Teachers' epistemological belief lays the basis of their daily practices and these beliefs have influence on teacher-student relation and planning of teaching (Song, Hannafin and Hill, 2007). Teachers' beliefs about knowledge and acquisition of knowledge are influential on teachers' opinions and in making important decisions. Beliefs support teaching practices and there is a consistency between the beliefs and classroom practices (Schraw and Olafson, 2002). Beliefs teachers hold influence their perception and judgments, which, in turn, affect their behavior in classroom, hence, understanding the belief structure of teachers and teacher candidates is essential to improving their professional preparation and teaching practice (Pajares, 1992, 307).

### **Methodology of Research**

The case study research design was used in this study. It is clear that case studies can be conducted with both quantitative and qualitative approaches. In qualitative case study the factors such as context, individuals, events and processes that affect the problem under study are tackled with a holistic approach, and the focal point of the study is to investigate to what extent these factors affect the problem and how they are affected by it (Yıldırım and Şimşek, 2008).

### *Sample of Research*

The present study where the purposive sample method is used includes two study groups. One of the groups (Group 1) consists of 70 last-year students of Primary School Teacher Education Department of Education Faculty. The students in group 1 are last-year students and they will graduate and finish their pre-service training within a week. The second group in the study consists of 33 second-year students studying at the same department. As these students are second-year students, they are subject to the new teacher-training program and they take the courses included in the new teacher training program.

In this course, the students of group 2 learn 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, 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*

Two 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 prospective 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.

In the literature review the factors regarding behaviorist and constructivist approaches were first identified and then they were transformed into question sentences. This instrument was used to collect data about the students' beliefs about behaviorist and constructivist approaches. The instrument developed by the researcher includes pairs of sentences, one of which is a representative of constructivist and the other one is the representative of behaviorist approach. To form sentences complying with constructivist approach following resources were capitalized: Charlotte (2007), Boghossian (2006), Cronje (2006), Liang and Gabel (2005), Richardson (2003), Plourde and Alowiye (2003), Lord (1999), Grennon (1999) 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. There should be sharp focusing on the targets; the course objectives should not be discussed
- b. The educational objectives should not be externally imposed they should be open to discussion

## Item 2:

- a. The teacher should be authoritative and informative
- b. The teacher should believe in equality and should be facilitator

Through such 38 pairs of sentences, the prospective teachers' beliefs about how teaching should be performed were investigated. For example, if a student teacher selects options b in both of the above given sentence pairs, this can be interpreted as this student has stronger beliefs about the constructivist pedagogy. This instrument was administered to both of the groups.

Another data collection instrument used in the study is lesson scenarios written by the prospective 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 the best from their field in the classroom.

*Data Analysis*

The scenarios of the student teachers were analyzed sentence by sentence. Their tendencies regarding behaviorist and constructivist approaches were identified from the statements in the scenarios. The scenarios which imply teacher-centeredness and teacher's sole domination in decision-making in classroom were evaluated as behaviorist. Additionally, whether students and teachers' behaviors in learning-teaching processes were suitable for behaviorist or constructivist views were identified.

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

“The concept to be taught is the concept of independence. First, what this concept means is shortly explained to the students. The importance of independence for a person or a country is explained and so students are helped to raise their awareness about the concept. The causes that hinder, eliminate or help to regain the independence are succinctly written on the board with the help of the students. In line with students’ responses, students’ misconceptions are corrected by means of the complete explanations of the teacher and conclusions are written on the board. Making only theoretical explanations about the concept of independence may bore the students, I also need to emphasize that it is a necessity of life and people should internalize it.”

When the responses of the student named SK are investigated, it is seen that in the scenario written by this student, teacher explanations are used to explain the concept, the teacher makes the students aware of the concept and the misconceptions of the students are corrected by teacher’s correct explanations and the teacher tries to motivate the students. This student teacher can be regarded as behaviorist according to his scenario.

In the scenarios written by some of the students both the signs of constructivist and behaviorist approaches are observed. In such cases, the dominant approach was determined. To determine this, the number of the sentences reflecting constructivist approach or behaviorist approach was used as the main criterion. For example, student teacher AK writes the following scenario “..... First I show the photographs, cartoons and pictures to the students. These will attract their attentions and help me to understand what they know about the subject. Usually, I do not prefer only lecturing while teaching the subject. I answer the questions that the students want to ask me. I encourage them to ask questions. The questions that I ask related to the materials I have brought serve the functions of helping the students to concentrate, to pay their attentions and my understanding what they know. I prepare activities through which the students enjoy themselves while learning. For instance, envelope activities which require small groups to compete and the winner will be learning.”

Though student AK prefers a teacher-centered teaching method where all the materials are prepared by the teacher, this student teacher’s approach can be viewed as constructivist as it includes activities helping to learn what the students know, encouraging the students to ask questions, and promoting group works and participation. Few of the students’ scenarios can not be evaluated as they include very few reactions and include both the signs of constructivist approach and behaviorist approach or sentences that are meaningless. For example, HS’s scenario:

“I go to classroom after the bell. I want them to talk about their daily problems. I talk about the problems I have been confronted with concerning the historical values, environmental destruction and language degeneration. I measure the readiness level of the class by designing concept maps about culture and national culture. To help students to learn, I make explanations. I talk about the harms done to our culture and ways of preventing these.

Here, using concept maps and measuring the readiness levels of the students are the signs of constructivist approach and talking about the problems the teacher have been confronted with and giving explanations are the signs of behaviorist approach. Yet, here it is not clear whether the teacher measures the readiness level of the classroom or of the students in the classroom. Moreover, the subject, main theme of the scenario, and what it aims to teach are not clear.

## **Results of the Study**

### *Beliefs of the Prospective teachers about Teaching Approach*

Prospective teachers seem to believe that schemata of the students should be restructured, their participation is necessary, encouragement is mostly associated with internal processes,

it is important to organize group dialogues and share the meanings, and students' decisions should be supported. Moreover, the prospective teachers seem to believe that students' initiatives should be supported and their autonomy needs to be promoted, students should be encouraged to think, and use their personal experiences in the lesson, students should be encouraged to make use of alternative sources of knowledge, they should be encouraged to respect different opinions and individuality, they should be provided with enough time to analyze and reflect on the knowledge they have been exposed to, and mistakes should be seen as opportunities for better learning to occur. These beliefs are mostly associated with constructivist approach.

A great majority of the prospective teachers in the first group believe that the objectives of the education should not be externally imposed, they should be open to discussion, the teacher should not be authoritarian but a facilitator believing in equality, instead of learning without mistakes, learning through experiences should be supported, intrinsic motivation should be supported, the teacher should not be seen as the only source of the knowledge but as a guide, the presentation of knowledge should include multi-perspective view, and the elements of cognitive terminology such as classification, analysis, and making guesses should be used while organizing the subjects, Moreover, the prospective teachers in this group think that teachers should allow students to show their reactions, they need to obtain information about students' background on the subject under discussion to help them learn it, encourage them to ask thought-provoking and open-ended questions, hence, lead them to research, encourage them to look for the details in their previous reactions, to make connections among the structures and provide them with time to form metaphors, to encourage them to tell their own opinions even in their guesses and speculations, to let them construct the knowledge based on their own meanings. Moreover, they think that teachers should make evaluations to see what the students have understood, and make the students a part of learning and evaluation processes, include not only their own evaluations but also group and individual evaluations, aim to evaluate deep and meaningful learning rather than recited knowledge, and use alternative ways of evaluation such as concept maps and portfolios.

Though the prospective teachers' beliefs are mostly in favor of constructivist approach, the prospective teachers somehow exhibit positive reactions towards behaviorist approach. 29 out of 70 in the sampling indicated that instead of restructuring of the knowledge, the knowledge should be reproduced, and 21 of them stated that unplanned introduction should not be used in lessons and students should be educated in line with the objectives. 18 prospective teachers, on the other hand, believe that the knowledge should be sought not in the questions asked by the students but in the questions asked by the teacher. These reactions may show that although the prospective teachers support constructivist approach in their hearts, there are some traces of conventions in their beliefs. Moreover, it can be argued that the prospective teachers theoretically prefer constructivist approach over behaviorist one and they more strongly believe in constructivist approach.

*Do the Beliefs Theoretically in Favor of Constructivist Approach Find Reflections in Practices?*

When this question is analyzed, it is seen that 42 of the scenarios were written with behaviorist approach and 22 of them were written with constructivist in the first sample group. It is clear that the prospective teachers' theoretical beliefs in favor of constructivist approach turned in favor of behaviorist approach when it comes to practice.

Other studies have also revealed the inconsistencies between epistemological beliefs and practices. Besides the studies showing that there are consistencies between the beliefs and practices, there are also studies showing that teachers' beliefs do not find reflections in their practices. 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). She concluded that beliefs and worldviews serve as contextual filters, but are not translated into different instructional activities or curricular choices. She also reported a number of inconsistencies between worldviews and classroom practices.

What can be the reasons for the inconsistencies found in these studies between the beliefs and practices? One of the reasons can be the behaviorist conventions in Turkish education system that we do not test here. Reform movements can instantly not eliminate the grammar of schooling (Tyack and Tobin 1994; Seker 2008). In addition, in the present study, the relations between teacher competencies and classroom practices and theoretical beliefs and the reflections of these beliefs in practices were not investigated.

*The Perception of Teaching Competence Can Be the Reason Why the Theoretical Knowledge Does Not Find Adequate Reflections in Practices*

Can the inconsistencies between the beliefs and practices be explained through teaching competencies? The reason why one can not apply what he/she knows can be related to teaching competencies. May prospective teachers' perceptions of teaching competencies affect them in such a way that while they support constructivist approach in theory, they support behaviorist approach in practice? To find an answer to this question, the scenarios written by the prospective teachers were reread and through an open-ended question, it was investigated whether there are any teaching consistencies that seem to be needed in the scenarios. In the first group, 27 of the 42 prospective teachers having written behaviorist scenarios stated that they could apply what they had written, and 14 of the 22 prospective teachers having written constructivist scenario stated that they could apply what they had written and they did not need any additional teaching competencies for applications. The rate of teaching competency perception seems to be 64% among both the prospective teachers writing behaviorist scenarios and those writing constructivist scenarios. The findings indicate that prospective teachers writing both constructivist and behaviorist scenarios think that they can apply their scenarios and they feel competent enough to do this. On the other hand, in the scenarios that the prospective teachers wrote, they indicated that they are in need of some teaching competencies.

These competency needs were analyzed separately for the prospective teachers adopting behaviorist approach and for those adopting constructivist approaches. As a result of the analyses, it was found that in 15 of the 42 behaviorist scenarios and 8 of the 22 constructivist scenarios, there are competency needs indicated. When the teaching competencies needed by the prospective teachers having written constructivist scenarios are examined, it is seen that they need competencies mostly required by constructivist approach such as drama-related applications, cooperative learning, measuring the readiness level of the students, motivating, being creative, problem solution, controlling the classroom and making it silent, using the time effectively. When the competencies in behaviorist scenarios are investigated, it is seen that the prospective teachers seem to need competencies mostly related with direct teaching such as planning, classroom management, the use of materials, motivating students, subject knowledge, methodological knowledge, general culture, communication skill, forming groups and working in groups, giving feedback. These findings indicate that the teaching competencies needed by the prospective teachers are mostly related with the characteristics of the scenarios they wrote.

When the prospective teachers' scenarios are analyzed, it was observed that the fact that some students are constructivist in their intentions, but much more behaviorist in their practices was also reflected in some scenarios. For example, student teacher AT states that: ... first, I give some information to the students about affixes. Then, I give a few examples. After that, I want

them to give examples. For example, I ask how the word *kalem* (pencil) becomes *kalem-lik* (pencil box) with the addition of an affix and what the relationship between *kalem* and *kalemlik* is. I want them to give similar examples. I write some word on colorful cardboards and I write the affixes on other colorful cardboards. Then, I want them to produce new words from the words and affixes given. And, through a story, I explain the subject and help the students to internalize the subject and turn the information into behaviors.

In this scenario, signs of two approaches can be observed. Though the intention in the scenario seems to be the exploitation of constructivism, the teacher seems to be not very willing to distance himself from the center of learning and hence, the practice seems to be closer to behaviorism. Student teacher IT states that:

... The topic I am going to teach was *morning in the forest*. My aim is to show how important forest is for living organisms. I want everybody to close their eyes in the classroom. I put a CD including sounds from the nature into a CD player. I stop CD player and ask them what they feel. I talk about the importance of forests for us. I put a cardboard on which there is a sign of recycling on the board, and ask them what it means. I get the responses, and I talk about the positive effects of returning the products that are recyclable into production processes in terms of protecting the nature. I construct the topic by associating it with the experiences of daily life. It is seen in the last sentence that the teacher himself constructs the knowledge.

Another student teacher (HS) states that "...try to convey the feeling by paying attention to intonation and stress complying with poetry and poem reading techniques. Then, I read another poem in a way that is not suitable for the reading technique. I ask them what attracts them in poems. I ask them what they felt when I read the poem in an inappropriate way. After asking similar questions, I explain them how to read a poem. And then I make them read poems and point out their shortcomings."

Though the approach in this scenario is primarily constructivist, the dominant position the teacher has in giving explanations is an indication of behaviorist conventions. In tree scenarios given above, it is seen that prospective teachers' having beliefs in favor of constructivist approach does not guarantee on its own that the applications will be constructivist.

As a result, it is seen that teachers' beliefs on their own are not enough for them to reflect their beliefs in their practices. In contrast to the beliefs adopted, reflections of opposite theoretical knowledge may be seen in practices. Hence, here the beliefs are mostly constructivist but the practices are mostly behaviorist.

In light of the study findings, nearly 64% of the prospective teachers writing both constructivist and behaviorist scenarios think that they do not have any problems related to teaching competencies. About one third of the teacher students view themselves short of some teaching competencies. Even in the scenarios written by the prospective teachers to teach any topic selected on their own volition without having any limitations with regards to topic selection from their own subject field, the one third of the student teacher do not see themselves adequate in terms of teaching competencies. When the fact that majority of the prospective teachers see themselves competent is considered, it seems to be not possible to explain why they do not incorporate constructivist applications into their practices through the perception of lack of competence. Moreover, it was investigated what competencies are needed by the prospective teachers who see themselves inadequate in some teaching behaviors. This investigation revealed that the student teacher having written both constructivist scenarios and behaviorist scenarios view themselves inadequate in motivating students, classroom management, efficient use of time, using drama and being creative. Moreover, the prospective teachers writing behaviorist scenarios state that they need improvement in the use of technology and materials, subject knowledge, lesson planning, group formation, working in heterogenic groups, communication skills, use of voice, giving feedback, general culture and organizing student-centered activities. On the other hand, the prospective teachers writing constructivist scenarios are in need of im-



provement in areas such as cooperative learning, measuring the readiness level of the students, problem-solving skills. The findings indicate that the prospective teachers are in need of teaching competencies complying with the scenarios they have written. Their perceptions of teaching competencies are not one of the reasons why they do not reflect their beliefs in their practices.

In short; (a) there are differences between the prospective teachers' beliefs and the reflections of beliefs in practices As seen in Table 1, 48 of 70 student teachers in the first group wrote a lesson scenario different from their own beliefs regarding learning approaches. (b) In general, the prospective teachers view their teaching competencies adequate, (c) The competency-related needs of the prospective teachers viewing themselves to be inadequate in relation to teaching competencies are mostly related to their practices (i.e., what they want to be more competent of is their practices not the approaches that can be alternatives to what they have applied). In other words, a single factor of teaching competency can not explain why the beliefs do not find enough reflections in practices.

#### *Can Practice in Class Reduce the Inconsistency Between Beliefs and Teaching Practices?*

Within the new teacher training program, there are some courses dealing with subjects such as design principles of new program, program development process, planning of teaching activities, evaluation of programs and activities. In one of these courses, prospective teachers in the second group are taught the structure of the new primary school program related to their own subject field and organize activities according to constructivist approach. The prospective teachers in this group have also similar positive beliefs about and preferences for constructivist approach to those of the students in the first group. It is observed that they have mostly preferred teaching and learning processes complying with that of constructivist similar to those of the prospective teachers in group 1 who are going to graduate soon. 16 of 33 students in the second group have written activities complying with constructivist approach. As a response to the question of what teaching competencies they need according to scenarios they have written, 29 prospective teachers stated that they need teaching competencies. When the competency needs of the prospective teachers having written behaviorist and constructivist scenarios are examined, it is seen that the prospective teachers having written behaviorist scenarios need mostly teaching competencies related to behaviorist approach such as how to make the knowledge understandable, classroom management, subject knowledge, the order of activities, effective explanation and how to make student think concretely. On the other hand, the prospective teachers having written constructivist scenarios state that they need teaching competencies mostly associated with constructivist approach such as asking questions to create a discussing environment, selecting the activities appropriately and designing activities. Moreover, they state that they also need some competencies related to behaviorist approach such as being fair in the distribution of questions, classroom management. The reason why the prospective teachers in the second group think that they have less need for teaching competencies than the ones in the second group may be because they are less experienced. The students in this group are just in the middle of their teacher training process. The scenarios written by the 33 prospective teachers in group 2 having had courses about constructivist theory and practices are more in compliance with constructivist approach than those written by the students in group 1.

Student teachers' strong beliefs in learning approaches and their teaching approaches in their scenarios are summarized in Table 1.

**Table 1. Student teachers' strong beliefs in learning approaches and their teaching approaches.**

Groups	n	Beliefs	Behaviorist-other scenario		Constructivist	
			f	%	f	%
Group 1	70	Constructivist	48	68	22	32
Group 2	33	Constructivist	17	52	16	48

It is seen in table 1 that both groups believe in constructivist teaching approach. It is interesting that lesson scenarios of the student teachers in group 2 reflect much more tendencies for constructivist teaching approach than those of Group 1. Although the scenarios of Group 1 who hold teaching practice in constructivist approach reflect more tendencies for constructivist approach, there is no statistically meaningful relationship between being in a certain group and teaching preferences ( $\chi^2 = 2.804$   $p < 0.05$ ).

## Discussion

In Turkey, it is seen that while reform movements are being performed, teachers' beliefs are not usually considered. However, successful performance of reform movements more or less depends on teachers' beliefs. Teachers' beliefs about education, teaching and learning were found to be the determining factor in the teachers' decisions about classroom strategies. In arguing for a dialectical perspective on teachers' practice, the research suggests that teachers' espoused understanding of the nature of science may also be at least partially formed by the influence of these beliefs, raising the possibility that influence may run from teaching to theoretical understanding and not the other way round (Waters-Adams, 2006).

It was observed in the study that the prospective teachers in the sampling mostly have beliefs in favor of constructivist approach. However, prospective teachers' theoretical preferences for and beliefs about teaching and learning approach do not find reflection in their practices. This does not mean that theoretical knowledge and beliefs will be reflected in future teaching practices. In light of these findings, it can be claimed that practices are not much related to beliefs about theoretical knowledge. The study by Koutselini and Persianis (2000) reveals, foremost, that student-teachers have not internalized the constructivist ideas of learning and teaching, although they appeared to approve of them in theory. McCutcheon argues that teachers operate on the basis of many theories of practice 'of which they may or may not be aware' (cited in Koutselini and Persianis; 2000).

The hypothesis claiming that the reason why the prospective teachers' beliefs do not find adequate reflections in their practices may be the lack of teaching competencies required for practices is not supported by our findings. Nearly two thirds of the prospective teachers in the sampling stated that they have the teaching competencies required to apply the scenarios they have written. The responses of the prospective teachers thinking that they do not some competencies required to apply the scenarios they wrote were analyzed. The analysis revealed that the prospective teachers viewing themselves not competent enough think so because they consider themselves lacking some teaching competencies required by their preferred teaching and learning approach. This finding indicates that it is not possible to explain why they do not incorporate their preferred teaching approaches into their practices directly through the perception of lack of competence.

Schoenfeld's (1999) saying: 'The better you understand how something is done, the better you can help people do it'. (Cited in Hascher, Cocart and Moser, 2004). In this context it can be argued that engaging in applications can decrease the inconsistency between theory

and practice. Practices not only improve professional skills but they also change practices. This differentiation between theories (considered as useless knowledge) on one side and experience and learning on the other side might lead a student to the following reductive opinion: 'Forget about theory, practice is all'. Such statements are thought-provoking because good teachers need not only practice but also advanced theoretical knowledge, e.g., for the analysis of teaching process which is a necessary condition for improving teaching and modifying epistemological beliefs (Hascher, Cocart and Moser, 2004). The prospective teachers in the group where teaching practices are included examine the sample activities according to constructivist approach and apply them with a micro lesson. Both the prospective teachers' beliefs about teaching approach and their teaching practices in this group are more consistent. Including teaching practices may bridge the gap between teachers' beliefs about teaching approach and their practices. Theoretical knowledge and beliefs about learning approaches included in teacher training programs may not find direct reflections in classroom practices. With the investigation and use of theoretical knowledge within the practice, teaching can be rendered more harmonious with the requirements of the teaching approach adopted. It can be suggested that what is important is real change in classroom practices, even before the teacher can consciously conceptualize newly established educational beliefs. It is also argued that change in beliefs follows (but does not proceed) change in practice (Levin and Wadmany, 2006).

### Conclusion

It is observed that nearly all of the student teachers of both groups (Group 1 from the previously applied program and Group 2 with newly-introduced one with constructivist approach) hold beliefs regarding constructivist approach in learning and teaching processes. The group who practiced in constructivist view reflected their beliefs on their scenarios much more than the other group. If student teachers can be given more opportunities of practicing in constructivist approach in preservice education, the inconsistency between the beliefs in teaching approaches and their reflections in practice can be reduced. Improvements in competencies regarding learning and teaching processes aimed at in the program currently applied can also reduce the inconsistency between beliefs and practice. The establishments of reforms or improvements in education can be obtained by considering student teachers' beliefs, and more practices and applications aimed at by the program should be provided during preservice teacher education.

### References

- Boghossian, P. (2006). Behaviorism, constructivism, and Socratic pedagogy. *Educational philosophy and Theory*, 38 (6), 713–722.
- Charlotte, D. (2007). *Enhancing professional practice: A Framework for teaching* (2nd Edition). Alexandria, VA, USA: Association for Supervision & Curriculum Development.
- Cronjé, J. (2006). Paradigms regained: toward integrating objectivism and constructivism in instructional design and the learning sciences. *Association for Educational Communications and Technology, ETR&D*, 54 (4). 387–416.
- Güven, I. (2008). Teacher education reform and international globalization hegemony: issues and challenges in Turkish teacher education. *International Journal of Social Sciences*, 3 (1), 8–17.
- Grennon, J. (1999). *In Search of Understanding: The Case for Constructivist Classrooms, with a new introduction by the authors*. Alexandria, VA, USA: Association for Supervision & Curriculum Development.

- Hascher, T.; Cocart, Y. & Moser, P. (2004). Forget about theory-practice is all? Prospective teachers' learning in practicum. *Teachers and Teaching: theory and practice*, 10(6), 623–637.
- Kavak, Y.; Aydın, A. & Akbaba Altun, S. (2007). Öğretmen yetiştirme ve eğitim fakülteleri (1982-2007) [Teacher education and faculties of education]. Öğretmenin üniversitede yetiştirilmesinin değerlendirilmesi. *Yüksek Öğretim Kurulu Yayınları*. Ankara.
- Koutselini, M.; Persianis, P. (2000). Theory–practice divides in teacher education at the university of Cyprus and the role of the traditional values of the Orthodox Church. *Teaching in Higher Education*, 5(4), 501–520.
- Köymen, Ü. (1992). Nitelikli öğretmen yetiştirme modeli [Qualified teacher training program]. Eğitimde arayışlar 1. sempozyumu. Eğitimde nitelik geliştirme. *Kültür Koleji Yayınları*, 1, İstanbul. 87–90.
- Levin, T. & Wadmany, R. (2006). Teachers' beliefs and practices in technology-based classrooms: a developmental view. *Journal of Research on Technology in Education*, 39(2), 157–181.
- Liang, L. L. & Gabel, D.L. (2005). Effectiveness of a constructivist approach to science instruction for prospective elementary teachers. *International Journal of Science Education*, 27(10), 1143–1162.
- Lord, T. R. (1999). A comparisons between traditional and constructivist teaching in environmental science. *The Journal of Environmental Education*, 30 (3), 22–29.
- Mvududu, N. (2005). Constructivism in the statistics classroom: from theory to practice. *Teaching Statistics*, 27 (2), 49–54.
- Özer, B. (1990). 1990'lı yılların başında Türkiye'de öğretmen yetiştirme sorunlar ve çözüm önerileri [Problems and suggestions for solutions in teacher education in Turkey in early 1990s]. *Anadolu Üniversitesi Eğitim Fakültesi Dergisi*, 3(2), 27–35.
- Pajares, M.F. (1992). Teachers beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research*, 62, 307–332.
- Plourde, L.A. & Alawiye, O. (2003). Constructivism and elementary preserve science teacher preparation: knowledge to application. *College Student Journal*, 37(3), 334–341.
- Richardson, V. (2003). Constructivist pedagogy. *Teachers college record*, 105(9), 1623–1640.
- Saylan, N. (1992). Öğretmen yetiştirme eğitim-öğretim planlarının geliştirilmesi [Teacher education development of teaching-learning programs]. *Uludağ Üniversitesi Eğitim Fakültesi Dergisi*, 8(2), 43–50.
- Schraw, G. & Olafson, L. (2002). Teachers' epistemological world views and educational practices. *Issues in Education*, 8(2), 99, 50p.
- Song, L.; Hannafin, M.J & Hill, J.R. (2007). Reconciling beliefs and practices in teaching and learning. *Educational Technology Research and Development*, 55, pp. 27–50.
- Şeker, H. (1995, September). Eğitim fakültelerindeki alan ve eğitim bilimleri derslerinin teori ve pratiği ile öğretmenlik uygulamalarının incelenmesi [Investigation of subject and educational sciences courses given in faculties of education and teaching practices]. Paper presented at the meeting of 2nd congress of educational sciences, Ankara, Turkey.
- Şeker, H. (2008). Will the constructivist approach employed in science teaching change the “grammar” of schooling? *Journal of Baltic Science Education*, 7(3), 175–184.
- Tierney, R. D. (2006). Changing practices: influences on classroom assessment. *Assessment in Education: Principles, Policy & Practice*, 13 (3), 239–264.
- Tyack, D. & Tobin, W. (1994). The “grammar” of schooling: why has it been so hard to change? *American Educational Research Journal*, 31(3), 453–479.
- Üstün, S. (1992). Öğretmenlik sertifikası hakkında öğrencilerin görüşleri ve tutumları [Students perceptions of and attitudes towards teaching certificate]. Unpublished masters' thesis, University of Hacettepe, Ankara, Turkey

Varış, F. & Gürkan, T. (1992). Eğitim bilimleri fakültesi programlarının değerlendirilmesi [Evaluation of the programs of educational sciences faculties]. *Eğitim Bilimleri Fakültesi Dergisi*, 25(2), 597–616.

Waters-Adams, S. (2006). The relationship between understanding of the nature of science and practice: the influence of teachers' beliefs about education, teaching and learning. *International Journal of Science Education*, 28 (8), p. 919–944.

Yıldırım, A. & Şimşek, H. (2008). *Sosyal Bilimlerde Nitel Araştırma Yöntemleri* [Qualitative Methods in Social Sciences]. Seçkin Yayıncılık, Ankara.

*Advised by Laima Railienė, University of Šiauliai, Lithuania*

**Hasan Şeker** Assoc. Prof. Dr., Mugla University, Faculty of Education, Mugla, Turkey.  
E-mail: sekerhas@gmail.com, hseker@mu.edu.tr  
Website: <http://mu.edu.tr>