The relationship among teachers' classroom practices for teaching thinking skills, teachers' self-efficacy towards teaching thinking skills and teachers' teaching styles

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A R T I C L E   I N F O

A B S T R A C T

This paper describes the relationship among elementary teachers' practices aiming at teaching thinking skills and their self-efficacy towards teaching thinking skills, teaching styles. The sample group consisted of 1003 classroom teachers. For collecting data, three different scales were administered. The fist scale was Teachers' Classroom Practices for Teaching Thinking Scale, the second one was Teaching Thinking Skills Scale and the last one was Grasha's Teaching Style Scale. Correlation and causal research designs were used to define the relationship among these variables. In the research, it was found that Facilitator teaching style followed by Self-efficacy. It was also seen that the predictor variable was Facilitator teaching style and the other styles had no effect on the model. Facilitator and delegator teaching styles had an effect on the model, but when self-efficacy was added on the model, it was seen that Delegator teaching style had no effect on the model. The results showed that self-efficacy was a meaningful variable on teachers' teaching thinking practices. Moreover, teaching style was also a meaningful predictor. Facilitating model was more meaningful one than delegator, expert, authority and personal models.

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1. Introduction

In the 21st century, knowledge has increased rapidly. This tendency is so rapid that by 2020 the knowledge we have will increase by fivefold every 72 h (Baron, 1993). Under this circumstance, the role of education has also changed because it is impossible to teach or accumulate such huge amounts of knowledge. The World Bank has also announced the same problem and OECD reports have asserted a solution. In the 1980s, the World Bank Education Reports announced that the educational aim should be to "grow up a generation who can think independently and solve problems creatively" (Klimova, 2012: 505). After that, many countries changed their national curricula in order to find a remedy to this problem. Although, many of them applied similar programs the results were very different from each other (Onosko, 1991).

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1.1. Research rationale

Increasing knowledge creates new problems for all countries. The first problem is teaching everything is impossible; furthermore, for students it is extremely challenging to remember all this knowledge. The second problem is to determine which one is true, reliable, or needed (Costa, 2001; Tezci & Gürol, 2002). Because of this, many countries have changed their curricula and the phrase 'to teach thinking skills' has become the most important goal (Beyer, 2010; Nispet, 1990; Snyder & Snyder, 2002). At this point, another problem has aroused about the scope of the term teaching thinking. Up to 1990, the term could not be precisely defined. The studies in America on defining the term reached a solution, 60 experts defined the components of the term thinking skill. Experts' ideas were picked up by Costa and published in *Developing Minds: A Resource Book for Teaching Thinking* (Costa, 2001). According to this widely accepted idea, thinking skills have four components: creative thinking, decision making, critical thinking, and problem solving (Costa, 2001; McGuinness, 1999; McGregor, 2007; Nispet, 1990; Wilks, 2005; Hashim, 2004; Tebbs, 2000; Alnesyan, 2012). These skills are needed by our century's work force as well (Baumfield, 2006).

The first revolution in curricula for teaching thinking skills was realized by the Venezuelans with the Odessay Programme (Alnesyan, 2012; Tebbs, 2000) The program also consists of teacher in-service training courses, producing new teaching materials and new assessment techniques. After the implementation of the program, the results were better than expected. So, similar ones were implemented in America. Later in Malaysia, *Smart School Project* started (Hashim, 2004). In England, the government wanted McGuinness to revise their education program (Johnson & Siegel, 2010; McGuinness, 1999). Similar radical changes appeared in Turkey as well. In 1997, new curricula have been developed on the basis of the constructivist philosophy and the similar phrase 'to teach thinking' has taken its place among the goal of education (Republic of Turkey Ministry of National Education [MEB], 2005).

For teaching thinking, many other programs have been implemented all over the world. Nevertheless, the results are varied from study to study because an effective educational thinking program does not only consist of written curricula (Nispet, 1990). There are many other components which are as important as the program itself. Some of main components of teaching thinking skills process are classroom environment and teachers' individual qualifications. Because, in teaching the thinking process, how you teach is more important than what you teach (Hashim, 2004; McGregor, 2007; McGuinness, 1999; Nispet, 1990; Tebbs, 2000; Winch, 2010).

In this scope, Marzano (1998) analyzed 4000 research in his Meta-analyze and he found that thinking skills are teachable; however, the success rate of each thinking skills program was very different from one another. Many new studies focused on other variables such as teachers' qualification, and parents' and school administrations' attitudes towards teaching thinking skills. These studies depicted that teachers' individual difference was one of the most important variables in the process (Alnesyan, 2012; Kamii & Lewis, 1991; Ritchhart, Palmer, Church, & Tishman, 2006). Self-efficacy and teaching styles are accepted as the two main individual differences of the teaching thinking process (Alnesyan, 2012; Tebbs, 2000). Onosko (1991) found that teachers having low self-efficacy were less successful teacher than those having high self-efficacy. Because, having low self-efficacy resulted in undemocratic classroom atmospheres, uncreative students, and one-way classroom interactions that are the main problems in teaching thinking skills (Coffman, 2013; Choy & Cheah, 2009; Othman & Mohamad, 2014). Furthermore, a teacher's teaching style is one of the determinants of their behavior patterns (Hugo, 1990). From this respect, teaching style and teachers' self-efficacy level are also effective on 'how you teach'.

1.2. Research purpose

In this paper, the relationships among the teachers' classroom practices for teaching thinking and their individual differences, self-efficacy and teaching style, were analyzed. Because, similar to other countries, in Turkey although all schools are implementing the same curriculum, the results are different from each other. Our aim in this paper is to show whether there is such relationship in Turkey sample or not. Furthermore, when compared to European and American literature, the research on teaching thinking are very limited in Asian and Middle East samples (Costa, 2001; Hashim, 2004; Alnesyan, 2012). Furthermore, studies defining the relationship between teachers' thinking skills practices and their teaching styles are very rare not only in Asian and Middle East samples but also in other continents.

1.3. Literature review

In fact, teaching thinking is not a new trend in the educational field. The first examples of the teaching thinking practices were applied by Socrates and Confucius thousands of years ago (Nispet, 1990; Wilson, 2000). Furthermore, in holy books such as Quran and Torah there are many sentences which show the importance of being thinking individual (Alnesyan, 2012; Tebbs, 2000). But, because of scholastic education, thinking was accepted as a capacity only for the people who had academic knowledge. This trend continued up to 17th century when A. Arnould wrote the book 'Port Royal Logic' (McGregor, 2007). With the publication of the book, thinking skills became an important educational goal in the field. However, the behaviorist movement in the 18th century halted this trend. According to this movement, thinking skill was strongly connected with IQ level that suggested only intelligent individuals could think. In education, it was thought that there was no need to teach thinking. Because of this movement, education was seen as a field that only the scientific rules had to be thought (McGregor, 2007; Wilks, 2005). This situation continued up to Dewey who asserted critical thinking notion (Baron, 1993). According