

Full Length Research Paper

Relationships between teachers' creativity fostering behaviors and their self-efficacy beliefs

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This study aims to examine primary and secondary school teachers' creativity fostering behaviors and self-efficacy beliefs according to gender and subject matters taught by teachers and to investigate the relationships between teachers' creativity fostering behaviors and their self-efficacy beliefs. The study was conducted with the participation of 120 teachers employed in primary and secondary schools in Ortaca District of Mugla Province. "Creativity Fostering Teacher Index Scale" (CFTIS) and "Teachers' Sense of Efficacy Scale" were used in data collection. Study results show a positive moderate level relationship between teachers' creativity fostering behaviors and self-efficacy beliefs. It was also identified that gender and subject matter were not significant factors in teachers' creativity fostering behaviors and teachers' self-efficacy beliefs did not show meaningful differences based on subject matter taught by teachers.

Key words: Creativity, self-efficacy, teacher behaviors.

INTRODUCTION

The wheel, steam engine, printing press, compass, telegraph, telephone, electricity, internet and thousands of other things are creations by human beings to improve their and others' lives and to solve problems. Each of these creations generated important changes and developments in the history of humanity. For instance, printing press initialized the renaissance and the compass started geographical explorations. Internet has established knowledge networks that practically connect the whole world. Today, all societies are fervently trying to create new, different and beneficial products with the same zest. Hence, "creativity" and "creative individuals" are among the important topics of educational systems. Bently

defines the concept of creativity as the use of knowledge and skills in new forms to obtain valuable outputs (Burke, 2007) and San (2011, p.4) defines it as "creating totally new things out of known materials, reaching a new and original synthesis and providing new solutions to problems".

According to Harris (1998), creativity is the skill to design or produce something novel. Creativity is not designing something that has not existed before. On the contrary, it is the skill of producing novel ideas by transforming, connecting and utilizing the existing ideas. Creativity is also an attitude. It is the skill of accepting transformation and innovations, the desire to play with

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ideas and possibilities, flexibility in outlook and enjoying the best. Creativity is also a process which requires a certain amount of accumulation, time, thought and examination. Researchers have not yet reached a consensus in explaining the process of creativity and conceptualize the concept which is included in all areas of human life. However, in general, all definitions emphasize that creativity is a new, different and beneficial competence (Dikici and Gurol, 2003).

Houtz and Krug stated that creativity is both a cognitive and affective effort and the mind constantly creates (cited in Fasko, 2001). Creativity is an innate quality and definitely everyone has creative abilities (Harris, 1998; Torrance, 1987). Although it involves individual differences, creativity is a skill that can be taught and learned due to its transforming nature (Sak, 2011).

Each individual can learn how to be more creative in time with the help of his/her environment. School and classroom environment plays an important role in creativity for learners (Torrance, 1987). Creative learning involves finding new solutions that can generate new outlooks to existing problems or comprehending the issues in more depth during the process of reconsideration and revision. Creativity requires the use of imagination. When creativity is supported in a manner to allow students to make connections in the whole educational system, it increases the use of knowledge flexibly and the capacity to utilize other informal learning sources. School is not a place where all knowledge is stored anymore but regarded as a place where knowledge is developed and reproduced (Burke, 2007). During the learning and teaching process, creativity is not only related to artistic fields such as music and art. The concept of creativity is found in science and social sciences as well as in other fields in the educational program (Moran et al., 1988; Burke, 2007; San, 2011). However, competitive environments, limited choices, pressure, experienced failures and rote learning negatively affect creativity at schools and creative individuals are not recognized. In study, Yeung et al's study (2005) students who were identified by their teachers as distracted, with negative characteristics and unique abilities in non-academic areas were found to score higher than the other students in originality and imagination. This result shows that academic achievement is emphasized more at schools and students cannot reflect their capacity for high level imagination in their school performances. Study results also show that conditions of schools do not meet the needs of creative students, some students are not given the opportunity to present their skills in traditional tests and exams and teachers may not recognize creative students in their classes. However, the purpose of creative teaching is to generate an environment in which individual differences are appreciated. "A creative environment" in the classroom will develop creative thinking (Fasko, 2001). This environment is composed of teacher behaviors-attitudes,

strategies that are used and activities (Fleith, 2000).

Teachers carry the responsibility to provide models in thinking differently and change thinking styles of students by encouraging creativity in the best available manner. The most crucial part of enhancing creativity is related to teachers' attitudes and behaviors towards students (Dikici and Gurol, 2003). Dursun and Unuvar (2011) identified that creativity is hindered more by teachers compared to parents considering the reasons associated with children, their families, teachers and schools in terms of fostering creativity. Teacher candidates also think that teachers play an important role in fostering creativity in students. Chambers found that practices by teachers such as a) informal classroom arrangements, b) being well prepared for classes, c) openness to non-traditional ideas and originality and rewarding creativity and d) ensuring student participation foster student creativity. Students consider these types of teachers more appropriate for teaching, believe that they do their jobs better and regard them as challenging teachers who are eager and intellectual (cited in Fasko, 2001). Fleith's (2000) study emphasized the effectiveness of creativity fostering teacher behaviors such as not setting too many rules and not giving too much homework, providing students with alternatives, giving them opportunities to reveal their creativity, accepting students as they are and developing their self-confidence. Experts who participated in the study believed that teachers should recognize strong aspects of students, their interests and skills, support their different responses, jokes, questions and risk taking behaviors and provide them with various alternatives. In order to enhance creativity thinking in classroom environment, Feldhusen and Treffinger provided the following suggestions: a) supporting unconventional students' ideas and responses, 2) meeting acceptable standards in supportive environments and making use of errors positively to allow students to understand their mistakes, 3) adapting students' ideas and thoughts to classroom environment, 4) giving students time to think and develop creative ideas, 5) ensuring the existence of a respect between students and teachers, 6) being aware of the fact that creativity is multifaceted just like art, 7) encouraging different learning activities, 8) providing resources and directing learning, 9) providing freedom of thought and trust by creating a warm environment, 10) making students feel as a part of decision making process and providing them with options, 11) making them feel they are in control of their learning and 12) allowing participation by all (cited in Fasko, 2001). Cropley identified creativity fostering teacher behaviors as 1) having a socially integrative and cooperative teaching style, 2) encouraging students to learn freely, 3) motivating students to have strong foundations and detailed knowledge in multi-faceted learning, 4) being non-judgmental against ideas until they are clearly identified by students after sufficient work on them, 5)

encouraging students to think flexibly, 6) encouraging students to make self-assessment, regarding students' suggestions and questions seriously, 7) providing students opportunities to work with different materials, 8) helping students learn how to deal with failure and frustration and 9) encouraging students to try the novel and the unfamiliar (cited in Dikici, 2013).

Suggestions regarding creativity fostering teacher behaviors are similar in general. The scale used in this study to identify teachers' support for students' creativity was prepared in the framework of Cropley's suggestions (Dikici, 2013). Teachers in Fleith's (2000) study emphasized that creativity is hindered by exams that have time constraints, rigid, inflexible or massive programs and lack of time. Experts in the study mentioned that creativity hindering classroom environments are related to teacher behaviors that do not take students' ideas into consideration, are teacher centered and limited and do not allow interaction. They also emphasized the importance of factors such as psychological confidence, intellectual risk taking and providing opportunities for creative expressions in the assessment of creativity.

Teachers play an important role in creativity fostering process based on the explanations and research findings in the literature. Different variables are effective on creativity fostering behaviors presented by teachers. One of these variables is the self-efficacy beliefs of teachers. Teacher self-efficacy can be defined as "beliefs about obtaining the desired outcomes in student learning even in cases where students are not sufficiently motivated" (Tschannen-Moran and Woolfolk-Hoy, 2001, 783). Self-efficacy affects teachers' efforts in teaching, their identification of goals, their level of eagerness and their classroom behaviors. Self-efficacy is related to teachers' performance (Tschannen-Moran and Woolfolk-Hoy, 2001). Therefore, teachers' judgments regarding their own professional competencies affect their attitudes, behaviors and practices that support, develop or enhance creativity or hinder and repress it. Teachers with high self-efficacy levels are open to novel ideas and new methods and they use student centered approaches in teaching (Gorozidis and Papaioannou, 2011; Koc, 2013). They support students' autonomy (Guvenc, 2011), are patient towards failure and criticize less when students make mistakes (Ashton and Webb, 1986, cited in Tschannen-Moran and Woolfolk-Hoy, 2001). They provide extra support to low achieving students, create students' self-perceptions regarding academic skills and identify achievable goals (Ross, 1994, 98, cited in Woolfolk-Hoy and Burke-Spero, 2005). They use more humanistic classroom management approaches (Savran-Gencer and Cakiroglu, 2007). All these support the creative learning environments and development of creative behaviors. Teachers with low self-efficacy levels establish more rigid rules and provide control based on external rewards and punishments (Tschannen-Moran et al., 1998), they are more

authoritarian (Bandura, 1997) and have higher levels of burn out (Bumen, 2010). Teachers' self-efficacy beliefs affect learners' achievement, motivation and attitudes as well (Tschannen-Moran and Woolfolk-Hoy, 2001).

Enhancing creative thinking skills is included among the objectives of educational programs implemented in Turkey. Teachers who are the implementers of the programs have important roles in realizing these objectives. In this context, studies on creativity are focused more on teacher candidates rather than teachers (Emir et al., 2004; Gorgen and Karacelik, 2009; Isleyen and Kucuk, 2013; Gurlen and Ustundag, 2014). In their study that examined creativity in national educational programs, Summak and Aydin (2011) stated that teachers are the least investigated group in this context. It was found that studies investigating teachers' support towards developing students' creativity are limited (Dikici and Gurol, 2003; Yenilmez and Yolcu, 2007). It is believed that investigating the relationships between creativity fostering behaviors of teachers and self-efficacy will make important contributions to literature based on the theoretical framework explained so far.

Purpose of the study

This study aims to examine primary and secondary school teachers' creativity fostering behaviors and self-efficacy beliefs and to investigate the relationships between teachers' creativity fostering behaviors and their self-efficacy beliefs. Answers to questions below were sought in line with this purpose:

1. What are teachers' creativity fostering behaviors?
2. Are there significant differences between female and male teachers in terms of their creativity fostering behaviors?
3. Are there significant differences in creativity fostering behaviors between classroom teachers and subject matter teachers?
4. What are teachers' self-efficacy beliefs?
5. Are there significant differences between female and male teachers in terms of their self-efficacy beliefs?
6. Are there significant differences in self-efficacy beliefs between classroom teachers and subject matter teachers?
7. What is the relationship between teachers' creativity fostering behaviors and their self-efficacy beliefs?

METHOD

Participants

The study was conducted during the first semester of 2013-2014 academic year in Ortaca Central District of Mugla Province. A total of 186 teachers are employed in Ortaca central district primary (84

Table 1. Test of normality.

Sub Scales	df	Kolmogorov-Smirnov ^a		Shapiro-Wilk
		Statistic	p	Statistic
Independence	120	,263	,00*	,876
Integration	120	,194	,00*	,867
Motivation	120	,217	,00*	,749
Judgment	120	,121	,00*	,941
Flexibility	120	,120	,00*	,908
Evaluation	120	,147	,00*	,915
Question	120	,170	,00*	,880
Opportunities	120	,152	,00*	,901
Frustration	120	,218	,00*	,827
Total	120	,090	,00*	,929
Self-efficacy				
Student Engagement	120	,123	,00*	,943
Instructional Practices	120	,121	,00*	,907
Classroom Management	120	,162	,00*	,907
Total	120	,122	,00*	,908

P<.05.

classroom teachers) and secondary schools (102 subject matter teachers). The aim was to reach the whole universe; however teachers who did not volunteer for the study and teachers who did not fill their scales completely were removed from data analysis and data obtained from 120 teachers were used in the study. All participating teachers were employed in state schools and 66 participants (55%) were females and 54 (45%) were males. 51 participants (42.5%) were classroom teachers whereas 69 (57.5%) were subject matter teachers.

Data collection tools

Data were collected with the help of "Creativity Fostering Teacher Index Scale" (CFTIS) and "Teachers' Sense of Efficacy Scale". Data collection tools were implemented on volunteer teachers.

Teachers' Sense of Efficacy Scale

"Teachers' Sense of Efficacy Scale" developed by Tschannen-Moran and Woolfolk-Hoy (2001) and adapted to Turkish by Capa et al. (2005) by undertaking validity and reliability work on the scale was used in the current study to collect data regarding teachers' self-efficacy beliefs. Ranking between 1-9 is used in the scale that represents the levels of "nothing, very little, some influence, quite a bit and a great deal". The 9-point Likert type scale is composed of 24 items and three sub scales. Some examples for the items in the sub dimensions are as follows: "How much can you do to motivate students who show low interest in school work? (Student Engagement), "How much can you gauge students' comprehension of what you have taught?" (Instructional practices), "How much can you do to control disruptive behavior in the classroom?" (Classroom management). Cronbach Alpha coefficients for these sub scales are as follows: Self-efficacy for Student Engagement .82, Self-efficacy for Instructional Practices .86 and Self-efficacy for Classroom Management .93. The reliability coefficient for the whole test was found to be .93.

Creativity Fostering Teacher Index Scale (CFTIS)

Dikici (2013) adapted the "Creativity Fostering Teacher Index Scale" (CFTIS) developed by Soh (Soh 2000 cited in Dikici 2013) into Turkish and conducted validity and reliability analyses of the scale. The 5-point Likert type scale is composed of 33 items and 9 sub dimensions. Examples of sub dimensions of the scale are as follows: "I encourage students to show what they have learned on their own (Independence); "Students in my class are encouraged to contribute to the lesson with their ideas and suggestions" (Integration); "I emphasize learning the basic knowledge/skills well (Motivation); "I do not give my view immediately on students' ideas, whether I agree or disagree with them" (Judgment); "I encourage my students to think in different directions even if some of the ideas might not work (Flexibility); "I allow my students to have opportunities to judge for themselves whether they are right or wrong (Evaluation); "I listen patiently when students asked questions that may sound silly (Question); "I encourage my students to try out what they have learned from me in different situations" (Opportunities) and "I encourage my students who experience failure to find other possible solutions (Frustration). Cronbach Alpha coefficients for these sub scales are as follows: Independence, .64; Integration, .67; Motivation, .77; Judgment, .62; Flexibility, .69; Evaluation, .57; Question, .71; Opportunities, .64 and Frustration, .75 and .93 for the whole test. Results of Goodness of Fit statistics obtained by confirmatory factor analysis in the framework of adaptation work undertaken by Dikici (2013) are as follows: GFI=.90; CFI= .95; NNFI = .95; RMSEA=.038; AGFI=.85. These results support the construct validity of the Turkish version of the scale.

Data analysis

Distribution of data was examined in the study as the first step. Table 1 presents the results of Kolmogorov-Smirnov and Shapiro-Wilk tests implemented to test whether data obtained from the working group show normal distribution.

Examination of Table 1 shows that data do not show normal distribution. Therefore, non-parametric tests were utilized in the study. Mann Whitney U-Test was used to test whether scores obtained for the independent group show significant differences and Spearman correlation coefficient was used for correlated measures.

FINDINGS

Table 2 presents arithmetic means and standard deviations calculated to identify classroom and subject matter teachers' perceptions regarding creativity fostering behaviors.

According to Table 2, teachers' creativity fostering behaviors have scores above average in all sub scales and in total.

As Table 3 shows, mean rank and total scores for female teachers regarding creativity fostering behaviors are higher than those of male teachers in all dimensions except judgment. However, Mann-Whitney U test results show no significant differences between female and male teachers' creativity fostering behaviors.

Table 4 shows that classroom teachers' scores in creativity fostering behaviors are higher in independence, integration, motivation, question, frustration dimensions and in terms of mean rank and in total compared to subject matter teachers. Subject matter teachers' scores in judgment, flexibility, evaluation and opportunities dimensions and their mean ranks and total scores are higher than those of classroom teachers. However, Mann-Whitney U test results show no significant differences between classroom and subject matter teachers in terms of creativity fostering behaviors.

Table 5 presents the arithmetic means and standard deviations for sub dimensions calculated in order to determine classroom and subject matter teachers' self-efficacy beliefs.

According to Table 5, teachers' self-efficacy belief scores are above average in all sub dimensions and in total although they are somewhat lower in student engagement dimension ($=7,21$).

According to Table 6, female teachers' scores for self-efficacy beliefs, their mean ranks and totals are lower than those of male teachers. Mann-Whitney U Test was utilized to test for significance of the difference in scores and no meaningful differences were detected between male and female teachers' perceptions regarding their self-efficacy.

Examination of Table 7 presents that scores, mean ranks and total scores of classroom teachers in terms of self-efficacy are higher than those of subject matter teachers. -Whitney U Test was utilized to test for significance of the difference in scores and meaningful differences were detected in favor of classroom teachers regarding self-efficacy.

Table 8 presents the Spearman Correlation coefficients calculated to display the relationships between teachers'

creativity fostering behaviors and their self-efficacy beliefs.

As shown in Table 8, a positive relationship exists between teachers' creativity fostering behaviors and self-efficacy perceptions in all dimensions. A medium level relationship exists between all sub dimensions of creativity fostering behaviors by teachers and student engagement self-efficacy beliefs. There is also a medium level relationship between all sub scales of creativity fostering behaviors except evaluation sub scale and instructional strategies sub scale. There is low level relationship between judgment, flexibility, evaluation, question and opportunities sub scales of creative fostering behaviors and classroom management sub scale of self-efficacy. There is also a low level relationship between flexibility, evaluation and question sub scales of creativity fostering behaviors and total self-efficacy perceptions and these sub scales have medium level relationships with the other sub scales.

DISCUSSION

This study aims to examine primary and secondary school teachers' creativity fostering behaviors and self-efficacy beliefs according to gender and subject matters taught by teachers and to investigate the relationships between teachers' creativity fostering behaviors and their self-efficacy beliefs. Study results show that in general, teachers' creativity fostering behaviors are positive in all sub dimensions and in total and that no significant differences exist based on gender and subject matter taught by teachers. In his studies on primary and secondary school teachers, novice teacher and teacher candidates, Dikici (2014) also identified that there are no significant differences in creativity fostering behaviors based on gender. In the context of subject matter, he identified that creativity fostering behaviors of secondary school subject matter teachers are higher than those of classroom teachers employed in primary schools and there are no differences between novice teachers and teacher candidates in terms of creativity fostering behaviors. In their study which examined the effects of attitudes and behaviors of classroom teachers and Mathematics teachers employed in primary schools on the development of creative thinking skills in students, Yenilmez and Yolcu (2007) found no significant differences in terms of gender, seniority and subject matter variables. These results are parallel to the results of the current study in general. Studies in Turkey mostly examined the creativity levels of teacher candidates. It is crucial for teachers to be creative and think creatively in order to develop creativity in students (Emir et al., 2004; Summak and Aydın, 2011). In this context, it is believed that investigating the studies that focus on teacher candidates' creativity will be beneficial. Literature presents studies that both point to

Table 2. Descriptive Statistics for teacher perceptions regarding creativity fostering behaviors.

Sub Scales	N		SS	Minimum	Maximum
Independence	120	4,31	,55	2,50	5,00
Integration	120	4,41	,48	1,00	2,00
Motivation	120	4,56	,54	1,33	5,00
Judgment	120	4,07	,54	2,00	5,00
Flexibility	120	4,31	,53	2,00	5,00
Evaluation	120	4,19	,63	2,67	5,00
Question	120	4,49	,48	2,75	5,00
Opportunities	120	4,44	,49	2,75	5,00
Frustration	120	4,55	,52	2,40	5,00
Total	120	4,37	,39	2,36	5,00

Table 3. Mann-Whitney U test results regarding teachers' creativity fostering behaviors based on gender.

Dimension	Gender	n	Mean Rank	Rank Sum	U	p
Independence	Female	66	62,41	4119,0	1656,0	,48
	Male	54	58,17	3141,0		
Integration	Female	66	61,95	4088,5	1686,5	,60
	Male	54	58,73	3171,5		
Motivation	Female	66	61,86	4083,0	1692,0	,61
	Male	54	58,83	3177,0		
Judgment	Female	66	59,95	3956,5	1745,5	,84
	Male	54	61,18	3303,5		
Flexibility	Female	66	60,81	4013,5	1761,5	,91
	Male	54	60,12	3246,5		
Evaluation	Female	66	65,17	4301,0	1474,0	,09
	Male	54	54,80	2959,0		
Question	Female	66	63,08	4163,0	1612,0	,35
	Male	54	57,35	3097,0		
Opportunities	Female	66	62,86	4149,0	1626,0	,40
	Male	54	57,61	3111,0		
Frustration	Female	66	64,13	4232,5	1542,5	,19
	Male	54	56,06	3027,5		
Total	Female	66	63,17	4169,5	1605,5	,35
	Male	54	57,23	3090,5		

Table 4. Mann-Whitney U test results for teachers' creativity fostering behaviors based on subject matter.

Sub dimension	Subject matter	n	Mean rank	Rank sum	U	p
Independence	Classroom	51	63,39	3233,0	1612,0	,41
	Subject Matter	69	58,36	4027,0		
Integration	Classroom	51	63,33	3230,0	1615,0	,43
	Subject Matter	69	58,41	4030,0		
Motivation	Classroom	51	65,25	3328,0	1517,0	,17
	Subject Matter	69	56,99	3932,0		
Judgment	Classroom	51	56,89	2901,5	1575,5	,32
	Subject Matter	69	63,17	4358,5		
Flexibility	Classroom	51	55,79	2845,5	1519,5	,19
	Subject Matter	69	63,98	4414,5		
Evaluation	Classroom	51	57,14	2914,0	1588,0	,35
	Subject Matter	69	62,99	4346,0		
Question	Classroom	51	64,21	3274,5	1570,5	,30
	Subject Matter	69	57,76	3985,5		
Opportunities	Classroom	51	56,62	2887,5	1561,5	,28
	Subject Matter	69	63,37	4372,5		
Frustration	Classroom	51	65,40	3335,5	1509,5	,17
	Subject Matter	69	56,88	3924,5		
Total	Classroom	51	60,58	3089,5	1755,5	,98
	Subject Matter	69	60,44	4170,5		

Table 5. Descriptive statistics for teachers' self-efficacy beliefs.

Sub Scales	n	SS	Minimum	Maximum
Student Engagement	120	7,21	,99	3,63
Instructional Strategies	120	7,60	,99	4,00
Classroom Management	120	7,55	1,05	4,25
Total self-efficacy	120	7,45	,95	4,13

significant (İsleyen and Kucuk, 2013; Duman et al., 2014) and insignificant differences (Emir et al., 2004; Gorgen and Karacelik, 2009) in the creativity levels of teacher candidates based on departments they attend. Different results were obtained in studies that focus on teacher candidates' creativity levels based on gender. Duman et al. (2014) and İsleyen and Kucuk (2013) found that creativity levels of teacher candidates did not show meaningful differences according to gender whereas Gok

and Erdogan (2011) determined that creativity of female teacher candidates were higher. In their research that examined the studies on creativity in national educational programs, Summak and Aydın (2011) found that gender does not have a significant effect on teacher candidates' creativity levels in general. The current study also identified that gender of the teachers do not have significant differences on creativity fostering behaviors.

Teacher candidates' creativity levels differ based on

Table 6. Mann-Whitney U test results for teachers' self-efficacy beliefs based on gender .

Dimension	Gender	n	Mean Rank	Rank Sum	U	p
Student Engagement	Female	66	56,27	3713,5	1502,5	,14
	Male	54	65,68	3546,5		
Instructional Strategies	Female	66	56,83	3750,5	1539,5	,20
	Male	54	64,99	3509,5		
Classroom Management	Female	66	58,64	3870,5	1659,5	,51
	Male	54	62,77	3389,5		
Total self-efficacy	Female	66	57,35	3785,0	1574,0	,27
	Male	54	64,35	3475,0		

Table 7. Mann-Whitney U test results for teachers' self-efficacy beliefs based on subject matter.

Dimension	Subject matter	n	Mean rank	Rank sum	U	p
Student Engagement	Classroom	51	70,09	3574,5	1270,5	,00*
	Subject Matter	69	53,41	3685,5		
Instructional Strategies	Classroom	51	67,12	3423,0	1422,0	,07
	Subject Matter	69	55,61	3837,0		
Classroom Management	Classroom	51	68,91	3514,5	1330,5	,02*
	Subject Matter	69	54,28	3745,0		
Total self-efficacy	Classroom	51	69,79	3559,5	1285,5	,01*
	Subject matter	69	53,63	3700,5		

Table 8. Spearman correlation coefficients for teacher perceptions regarding their creativity fostering behaviors and self-efficacy beliefs.

Dimensions	Students' engagement	Instructional strategies	Classroom management	Total
Independence	.47*	.45*	.36*	.45*
Integration	.45*	.41*	.30*	.40*
Motivation	.41*	.43*	.34*	.42*
Judgment	.36*	.33*	.26*	.33*
Flexibility	.30*	.34*	.16	.27*
Evaluation	.31*	.27*	.14	.25*
Question	.31*	.31*	.21*	.29*
Opportunities	.34*	.35*	.28*	.34*
Frustration	.45*	.38*	.31*	.41*
Total	.50*	.49*	.33*	.46*

* $p < .05$.

subject matters. Considering the fact that these results are about teacher candidates, it will be beneficial to take into consideration the data from classroom implementations of active teachers, students and in-class

observations in order to make healthier interpretations about fostering creativity.

Current study identified that self-efficacy beliefs of teachers are generally high. There are studies in literature

with parallel results (Baykara, 2011; Guvenc, 2011; Tabancalı and Celik, 2013). Current study determined that self-efficacy beliefs of teachers are somewhat lower in students' engagement dimension. There are studies in literature that support this finding (Baykara, 2011; Guvenc, 2011). Current study also presented the finding that teachers' self-efficacy beliefs do not show significant differences according to gender.

This result is parallel to the findings of Yılmaz and Bokeoglu (2008) and Bumen (2009). Study results that show no significant differences between male and female teacher candidates' self-efficacy beliefs also support this finding (Baykara, 2011; Tabancalı and Celik, 2013). However, there are studies that indicate males have higher self-efficacy among teacher candidates (Saracaoglu et al., 2013; Elkatmış et al., 2013) and among classroom teachers (Korkut and Babaoglan, 2012) and females have higher self-efficacy among teacher in vocational schools (Ekici, 2006). As we can see, study results are varied. Therefore, it is rather difficult to make generalizations about self-efficacy levels of teachers based on gender.

Current study identified meaningful differences in self-efficacy beliefs of teachers based on subject matter. Student engagement, classroom management and total self-efficacy beliefs of classroom teachers are higher than those of subject matter teachers. Bumen (2009) also found that classroom teachers' student engagement self-efficacy beliefs were higher than those of subject matter teachers. Yılmaz and Bokeoglu (2008) stated that no significant differences existed between classroom and subject matter teachers in terms of self-efficacy. Results that found no differences in self-efficacy based on subject matter were also obtained in studies conducted on teacher candidates (Elkatmış et al., 2013; Saracaoglu et al., 2013). However, Cakir et al. (2006) identified that self-efficacy beliefs of teacher candidates in social areas were higher than those of Science and Mathematics and Gurbuzturk and Sad (2009) stated that Art, Music and Classroom teacher candidates in had higher self-efficacy beliefs compared to teacher candidates in Science, mathematics and English departments. As we can see, research findings on the relationships between teacher self-efficacy and subject matter are also varied and making generalizations is hard.

The study determined a positive relationship between teachers' creativity fostering behaviors and their self-efficacy beliefs. In other words, teachers who feel more competent display more creativity fostering behaviors. Results in literature showing that teachers with high self-efficacy levels have high autonomy supports are similar to the findings of the current study (Guvenc, 2011). Autonomous teachers create an atmosphere in their classrooms suitable for developing student creativity and allowing students to display creative behaviors. Selection, internal rewards, emotional support, questioning and

answering student questions can be given as examples of autonomous teacher behaviors (Stefanou et al., 2004; Reeve, 2006). Research findings regarding positive effects of high self-efficacy on positive learning outputs and findings about the positive effects of teachers with high self-efficacy on the teaching process also support the findings of this study (Tschannen-Moran and Woolfolk-Hoy, 2001; Savran-Gencer and Cakiroglu, 2007; Gorozidis and Papaioannou, 2011; Koc, 2013). Positive relationships identified between teachers' self-efficacy beliefs and creativity fostering behaviors are not surprising. However, the data regarding teachers' self-efficacy beliefs and creativity fostering behaviors were obtained from teachers' views.

RECOMMENDATIONS

It will be beneficial to obtain students' views about teachers' creativity fostering behaviors and provide in-class observations to identify whether these behaviors are presented in classrooms. Providing teacher candidates with training in environments that foster creativity pre-service and providing creativity training to both teachers and teacher candidates will positively affect their creativity fostering behaviors in their classrooms. In this context, it will be useful to undertake research that will investigate the contribution of pre-service programs on the development and support of teachers' creative behaviors. Teachers' pre-service experiences and the courses they take in theory and practice affect their self-efficacy. Therefore, it will be beneficial to organize pre-service programs to allow development of positive self-efficacy in teacher candidates. During active service, school of employment and support provided by parents and students affect their self-efficacy levels. It is crucial that school administrators provide the necessary conditions to develop organizational creativity and inform parents through school management, guidance teachers, classroom teachers and public service announcements about the need for not evacuating students and teachers solely on exam results. Spacing the placement exams in a lengthier process will help diminishing these pressures and the possibility for displaying creativity fostering behaviors in classrooms will increase for teachers. This study examined the relationships between primary and secondary school teachers' creativity fostering behaviors and their self-efficacy beliefs, gender and subject matter. It will be beneficial to investigate teachers' creativity fostering behaviors in different educational levels with different samples and different variables.

Conflict of Interests

The author(s) have not declared any conflict of interests.

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