



Teaching-learning conceptions and curriculum fidelity: A relational research

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Abstract

The aim of this study was to examine the relationship between teachers' teaching-learning conceptions and their curriculum fidelity level. The study embraced "relational survey model", which is one of the quantitative research approaches. The study group consisted of teachers ($n = 215$) working in public high schools in the province of Niğde, Turkey. "Teaching-learning conceptions" and "curriculum fidelity" scales were used for data collection. Pearson product-moment correlation analysis and multiple regression analysis techniques were used to analyze the data. The findings indicated that while there is a positive significant relationship between constructivist teaching-learning conceptions and curriculum fidelity level of teachers ($r = .232, p < .05$), there is no significant relationship between traditional teaching-learning conception and curriculum fidelity level ($r = .019, p > .05$). According to the results of the multiple regression analysis, it was observed that teaching-learning conceptions significantly predict curriculum fidelity ($R = .239, R^2 = .057, p < .05$). In addition, it was seen that constructivist teaching-learning conception was a significant predictor of curriculum fidelity ($\beta = .242$), unlike traditional teaching-learning conception ($\beta = .058$). Considering these findings, it could be stated that teachers with constructivist teaching-learning conception have a higher level of curriculum fidelity.

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Keywords: Teaching-learning conceptions, curriculum fidelity, teachers, relational research

1. Introduction

1.1. Background of the Study

The curriculum is the mechanism of experiences covering all activities related to the teaching of a course that is planned to be taught to individuals at school or out of school (Tyler, 1949, p. 3). The curriculum includes all the teaching activities related to topics to be covered in various classes and courses in an education level (McBrien & Brandt, 1997).

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A curriculum is a plan or design that guides the teacher for what and how to teach as well as how to solve the problems faced in learning and teaching environment (Posner & Rudnitsky, 2006). Similarly, Kerr (1966) defines the curriculum as all learning processes, planned and directed by educators, that are conducted individually or in groups in or out of school. According to Mckernan (2008, p.12), a curriculum is a form that aims students to gain information, attitudes, values, skills and abilities through various educational experiences in a planned way at all levels of the education system. The curriculum can be seen as a means of achieving certain educational goals and objectives. In this sense, the curriculum can be considered as a checklist of the desired outcomes (Su, 2012). Based on all these definitions, the curriculum can be summarized as a system of experiences planned in and (or) out of school with the aim of educating individuals equipped with the required qualifications in accordance with the requirements of the age.

The aim of a successful and effective curriculum is to meet the expectations and demands of individuals and society in line with the changes and transformations occurred in the world in the current period. In addition, individuals should be equipped with the qualifications they will need currently or in the future. Therefore, curriculum development continues consistently. In this direction, the reform in a cycle of continuous change and transformation in the form of curriculum development, implementation, evaluation, review, editing, reapplication and revision (Johnson, 2001). The literature for curriculum indicates that factors appear for intellectual, traditional, social, behavioral, experiential, and parrot fashion individuals from 1900 to 1980 worldwide (Schubert, Lopez-Schubert, Thomas & Carroll, 2002). After 1980 in light of the developments in the world, curriculum was developed in line with progressive and reconstructive educational philosophies that centralize individuals and society instead of permanent and essentialist curricula. Especially today, called the age of information and communication, it is inevitable to provide change and transformation in curriculum as the needs of individuals and societies differ considerably from the past due to rapid change and transformation in technologies (Sowell, 2005).

Skills have become more important than knowledge of specific subjects or learned knowledge in the 21st century. Life skills, career skills, innovative and project-based academic studies have gained fundamental importance. In addition, it is essential for learners to be competent in skills such as using technology, cooperative study, effective communication, digital literacy, problem solving, critical thinking, creativity and productivity, and acquiring information from different sources (Gore, 2013; Voogt & Roblin, 2012). In this context, the Ministry of National Education (MoNE) in Turkey reformed the primary education curriculum in 2005 and the secondary education curriculum in 2012 in line with the constructivist approach based on the progressive education philosophy. These curricula were revised in 2017 and 2018 in line with the recommendations from teachers, educational administrators, inspectors, program development experts, and non-governmental organizations at the end of the program

evaluation studies (MoNE, 2017, 2018). With these developed and revised curricula, students' competencies with the range of skills they will need in personal, social, academic and business life were identified in the Turkey Qualification Framework (TQF). These competencies are “*communication in mother tongue, communication in foreign languages, mathematical competence and basic competences in science/ technology, digital competence, learning how to learn, social and civic competencies, taking initiative and entrepreneurship, cultural awareness and expression*” (MoNE, 2017). It is possible for all these efforts on curricula to be successful and to be reflected in the education process by embracing the constructivist curriculum with constructivist learning-teaching conception and exhibiting curriculum fidelity. Therefore, teachers' teaching-learning conceptions and their curriculum fidelity will be important factors that identify the effectiveness and success of the curriculum in the implementation process.

1.2. Aim of the Study

It can be stated that it is only possible for teachers to be able to apply the constructivist curriculum based on the progressivist philosophy in the educational environment depending on having contemporary/innovative teaching-learning understanding and curriculum fidelity. Although studies in which teachers' teaching-learning conceptions and their curriculum fidelity were separately examined appear in the relevant literature, limited study exploring the relationship between these two phenomena came across. In this regard, it is considered that this study makes significant contributions to the literature. In this sense, this study aims to examine the relationship between teaching-learning concepts and curriculum fidelity. Within the scope of the study, the following questions were sought:

1. What are the teachers' teaching-learning conceptions and their curriculum fidelity levels?
2. Is there a significant difference between teachers' teaching-learning conceptions and their curriculum fidelity in terms of gender, professional seniority, and educational background?
3. Is there a relationship between teachers' teaching-learning conceptions and their curriculum fidelity?
4. Do teachers' teaching-learning conceptions significantly predict their curriculum fidelity?

1.3. Literature Review

Teaching-learning conceptions refer to the “beliefs held by teachers about their preferred ways of teaching and learning” in the most basic sense (Chan & Elliot, 2004, p. 819). In other words, teaching and learning conceptions can be defined as the beliefs that teachers have about their own educational practices (Chan, 2003). They can also be considered as an umbrella concept that expresses teachers’ values, beliefs, attitudes, educational philosophy adopted, intentions and practices towards learning and teaching. In other words, teaching-learning conceptions can be defined as roles of teachers and students in teaching-learning process and teachers’ beliefs about their preferred ways of teaching and learning (Chan & Elliot, 2004). Teachers’ understanding of students and teachers’ roles in teaching-learning process and their classroom practices, approaches to teaching and learning in other words, are shaped with the educational philosophy they adopt (Chan, Tan, & Khoo, 2007; Turner, Christensen, & Meyer, 2009). Therefore, educational philosophies and approaches implemented in the classroom are important factors that reveal teachers’ teaching and learning conceptions.

In the literature, there are two contradicting teaching-learning conceptions, and these two different conceptions exhibited by teachers are expressed as teacher-centered and student-centered (Kember, 1997), teacher-centered/content-oriented or student-centered/learning-oriented (Entwistle, Skinner, Entwistle, & Orr, 2000; Cheng, Chan, Tang, & Cheng, 2009; Samuelowicz & Bain, 2001), or traditional and constructivist teaching-learning conceptions (Chan, 2004; Chan & Elliott, 2004; Chan, Tan, & Khoo, 2007). However, the last one is the most commonly used form of expression from these approaches in the literature.

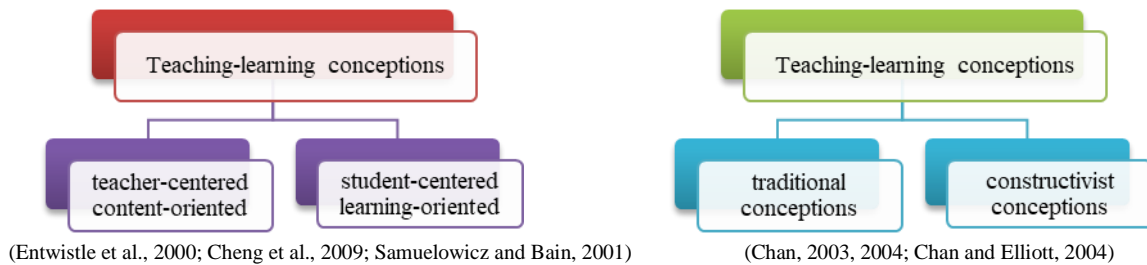


Figure 1. Teaching- learning conceptions in the literature

In the traditional teaching-learning conception, students are seen to be passive individuals in the classroom. Teacher-student interaction is limited; teaching of knowledge is one-way from teachers to students and includes the use of teacher-centered teaching strategies. Therefore, students’ interests, skills, abilities, cognitive, affective behaviors and so on are ignored according to this approach. It locates the teacher as the

source of knowledge and the students as passive recipients. This approach includes activities that will force students to memorize the subject. The teacher is the only authority in the knowledge transmission and students are seen as passive recipients of knowledge, and emphasis is particularly on the acquisition of information from teachers and textbooks in this approach (Brooks & Brooks, 1999; Schunk, 2012). Students are not asked to express how they perceive a particular case or concept in the traditional approach. The “single” interpretation of the topic is offered by the teacher or resources and this interpretation is somehow included in the teaching content (Jonassen, 2009). For this reason, it can be said that teachers with the traditional approach embrace teacher-centered teaching strategies in the classroom and see students as passive recipients of information presented independently of them (Chen & Eliot, 2004; Cheng et al., 2009).

In the constructivist one, which is one of the teaching-learning approaches and based on the theories of Piaget and Vygotsky (Zabihi & Khodabakhsh, 2017), students have an active role in learning process. On the other hand, the teacher with this approach arranges the classroom environment and class layout in a way that the direction of communication is “teacher to student, student to teacher and student to student”. It concentrates the learning process around the students’ interests, needs, expectations and abilities. According to this approach, students take responsibilities for their own learning and participate actively in the learning process. The constructivist conception dates back to the studies of the philosopher Giambastita Vico (1668-1744), who says that people can understand what they construct themselves (Collingwood, 2005). Vico argues that “who knows something can explain it”. In this respect, the conception based on the constructivist approach requires students to construct what is learned in their minds and make meaning in the learning process based on their experiences.

A teacher with a constructivist teaching-learning conception is expected to ensure students with the environments in which they can have rich learning experiences and guide them through the process of making meaning (Gagnon & Collay, 2001; Jia, 2010; Taber, 2011). In the constructivist teaching-learning conception, the belief that information is not independent of the individual and information cannot be seen independently of the individual and the meanings of the individuals cannot be transferred to others is dominant. Accordingly, constructivism includes an active process in which individuals make meaning by integrating new ideas with existing ideas (Driscoll, 2000; Jones & Brader-Araje, 2002; Phillips, 2000). students are seen as an active participant in the learning process, while the teacher considers themselves as a guide to help students in structuring knowledge in the constructivist teaching-learning conception (Brooks & Brooks, 1999).

Curriculum fidelity is defined as the reality of implementation of the curriculum in educational settings in a way that is literal and program developers aim to accomplish

(O'Donnell, 2008; O'Donnell & Lynch, 2008). In other words, curriculum fidelity can be expressed as “authentic implementation of the curricula by stakeholders in schools in terms of intended targets and applied forms” (Dusenbury, Brannigan, Falco, & Hansen, 2003). In the relevant literature, the concept of curriculum fidelity is expressed in terms such as “*curriculum fidelity*” (Ennis, 2013; Vartuli & Rohs, 2009), “*fidelity of implementation*” (Dusenbury et al., 2003; Wiitala & Lowery, 2010; Wallace et al., 2008; Wojewodka et al., 2017), “*program fidelity*” (Esbensen et al., 2011; Monroe-De Vita, Morse, & Bond, 2012; O'Connor, Small and Cooney, 2007), “*implementation fidelity*” (Bickman et al., 2009; Carroll et al., 2007; Gerstner & Finney, 2013), “*program integrity*” (Duwe & Clark, 2015; Helmond, Overbeek, & Brugman, 2012), and “*treatment integrity*” (Fiske, 2008; Fryling, Wallace, & Yassine, 2012; Sanetti & Kratochwill, 2008). Curriculum fidelity examines the extent to which the developed curriculum matches the curriculum implemented by teachers (Gerstner & Finney, 2013). In this context, teachers' curriculum fidelity is examined in terms of (a) curriculum differentiation; the degree to which the critical elements of the curriculum are presented and the original form is stuck, (b) curriculum adherence; the extent to which the components of the curriculum are implemented and adhered to the curriculum as specified in the implementation guidelines, (c) quality of curriculum delivery; the extent to which the curriculum practitioners are ready to implement the program (Pence, Justice, & Wiggins, 2008).

Today, as in every other field in the world, it is seen that innovations in education are realized rapidly and there is a serious change and transformation in teaching and learning moving from traditional approach towards constructivism (Leung, 2008). This situation has had significant reflections on education and the constructivist approach in which emphasis is placed on the learner, not the teacher, has gained importance. In contrast to the teacher-centered approach, student-centered approaches and practices have come to the fore in learning processes (Sherman & Kurshan, 2005). Furthermore, in the 21st century, also called as the age of information and communication, skills have become more important than knowledge of specific topics or memorized knowledge. Life skills, career skills, innovative and project-oriented academic studies have gained fundamental importance. In addition, it is important for learners to be component in using technology, collaborative work, effective communication, information literacy, digital literacy, problem solving, critical thinking, and productivity (Gore, 2013; Voogt & Roblin, 2012). This situation is of course reflected in the curriculum and a lot of countries have updated their curriculum in line with contemporary teaching approaches in order to include qualifications needed in the current conditions. Curriculum, which was designed as teacher and topic-centered in the past, is currently designed in line with the constructivist approach (Norman & Spohrer, 1996). In this direction, it is not sufficient to design the curriculum only considering the conditions of the age and effective implementation of curricula by teachers is extremely important for the success of curricula. At this point, it can be stated that teachers' curriculum fidelity level will

directly affect the reflections of the curricula developed in line with contemporary approaches on education systems.

2. Method

2.1. Research Model

Correlation research model was employed in this study. Correlation research seeks to reveal direction and strength of the relationship between two or more variables without any manipulation (Creswell, 2012; Johnson & Christensen, 2010). The main purpose of correlation research is to explore understanding of important phenomena by revealing the relationships between variables (Fraenkel & Wallen, 2006). In the present study, the relationship between teachers' teaching-learning conceptions and their curriculum fidelity was examined.

2.2. Participants

The participants consisted of teachers ($n = 215$) working in public high schools in the province of Niğde, Turkey. While 39.5% of these teachers were female ($n = 85$), 60.5% of them were male ($n = 130$). Of the participants, 39.5% ($n = 85$) had 1-5 years, 16.3% ($n = 35$) had 6-10 years, 16.7% ($n = 36$) had 11-15 years, 13%, 5 ($n = 29$) had 16-20 years and 14% ($n = 30$) had 21 years and more professional experience. In addition, it was seen that 94% ($n = 202$) of the participants had undergraduate education and 6% ($n = 13$) of them had graduate education.

2.3. Data Collection Instruments

“Teaching-Learning Conceptions Scale” developed by Chan and Elliott (2004) and adapted to Turkish by Aypay (2011), as well as “Curriculum Fidelity Scale” developed by Yaşaroğlu and Manav (2015) were used in this study. The information about these data collection tools used in the study was presented briefly below.

2.3.1. Teaching-Learning Conceptions Scale

“Teaching-Learning Conceptions Scale” developed by Chan and Elliott (2004) and adapted to Turkish by Aypay (2011) was used in the study in order to examine teachers' teaching-learning conceptions. The scale consists of a total of 30 items, all of which are 5-point Likert type (1 = totally disagree; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = totally agree). In addition, the scale consists of two sub-dimensions, which are (a) Traditional teaching-learning conception (18 items; e.g., “Teaching is simply to explain, present and explain course subjects.”; $\alpha = 0.83$), (b) Constructivist teaching-learning conception (12 items; eg, “Learning means that students have plenty of

opportunities to explore, discuss and express their thoughts, $\alpha = 0.88$). In addition, the confirmatory factor analysis results ($X^2/sd = 1020.3/404$; GFI = .93; AGFI = .91; RMR = .050; RMSEA = .067; CFI = .80; NFI = .72; RMR = .050 and SRMR = .065) indicate acceptable values for using the scale (Aypay, 2011).

2.3.2. Curriculum Fidelity Scale

“Curriculum Fidelity Scale” developed by Yaşaroğlu and Manav (2015) was used in order to measure teachers’ levels of curriculum fidelity. The scale consists of a total of 20 items, all of which are 5-point Likert type, (1 = totally disagree; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = totally agree) and one dimension. The Cronbach Alpha reliability coefficient of the one-dimensional scale was calculated as $\alpha = 0.89$ (Example scale item; “I design course activities according to the gains in the curriculum”). This single factor structure explained 35.81% of the total variance (Yaşaroğlu & Manav, 2015).

2.4. Data Collection Process

First of all, necessary permission was obtained from the National Education Directorate of Education in order to collect the data in the study. After obtaining the necessary permission, one of the researchers personally visited the sampling schools and applied the scales to the participant teachers. In this context, the teachers were informed about the purpose of the study, the characteristics of the measurement tools and how to fill them. In addition, it was stated that teachers’ responses for the scales would not be used for any purpose other than the scope of the study. The implementation of the scales to teachers was completed in approximately four-week time. Teachers participated on a voluntary basis in the study.

2.5. Data Analysis

In this study, the relationships between the teachers’ educational beliefs and curriculum design orientations preferences were examined through the Pearson Product Moment Correlation technique (Cohen, West & Aiken, 2014). In the next phase of the study, multiple regression analysis was carried out in order to examine the effect of teachers’ educational beliefs on curriculum design orientations preferences (Gelman & Hill, 2006). In this study, Mahalanobis distance values and skewness and kurtosis values were checked before beginning the regression analysis (Howell, 2006). At the same time, it was examined whether there was autocorrelation among the variables included in the regression analysis (Tabachnick & Fidell, 2007) and it was decided there was no autocorrelation considering Durbin-Watson value ($D-W = 2.10$). In addition, the data set was examined in terms of assumptions of multiple linear regression (variance inflation factor [VIF] = 0.00-1.99; condition index [CI] = 1.00-14.11), suggesting that there was no

multicollinearity between the independent variables (Shavelson, 2012). After all these examinations, it was seen that the data set was appropriate for multiple regression analysis and relevant analyses were performed.

3. Results

3.1. Descriptive Analysis Findings

In this part of the study, findings were given about descriptive analysis that deals with values regarding arithmetic mean and standard deviation. In this sense, the descriptive statistics for the variables were presented in Table 1.

Table 1. Descriptive statistics on research variables

Variables	M	SD	Min.	Max.	SE
Teaching-Learning Conceptions					
a. Traditional teaching-learning conceptions	2.65	.618	1.83	5.00	.042
b. Constructivist teaching-learning conceptions	4.27	.869	1.08	5.00	.059
Teachers' Curriculum Fidelity					
a. Curriculum fidelity	3.80	.427	2.45	4.35	.029

According to the descriptive statistics, it was seen that the teachers had a low level of traditional teaching-learning conception ($M = 2.65$, $SD = 0.618$), and a high level of constructivist teaching-learning conception ($M = 4.27$, $SD = 0.869$). In addition, it was also found that the teachers had a medium level of curriculum fidelity ($M = 3.80$, $SD = 0.427$). Furthermore, the teachers' teaching-learning conceptions and curriculum fidelity were also compared in terms of various variables.

A statistically significant difference was found in the traditional teaching-learning conception in favor of males ($t_{[213]} = -5.390$, $p < .005$), and in the constructivist teaching-learning one in favor of females ($t_{[213]} = 2.187$, $p < .005$). Considering the professional experience variable, a statistically significant difference was found in the traditional teaching-learning conception ($F_{[4-210]} = 9.072$, $p < .001$) in favor of teachers with high professional experience, and in the constructivist teaching-learning conception ($F_{[4-210]} = 7.954$, $p < .001$) in favor of teachers with low professional experience. In addition, no significant difference was found among teachers in terms of educational background in both the traditional teaching-learning conception ($t_{[213]} = -.348$, $p > .05$), and the constructivist teaching-learning one ($t_{[213]} = -.300$, $p > .05$).

While there was no statistically significant difference was found between teachers' curriculum fidelity in terms of gender ($t_{[213]} = -1.513$, $p > .05$), and educational background ($t_{[213]} = -.694$, $p > .05$), a statistically significant difference was found among

teachers with 16-20 and 21 and above years in favor of those with 21 years and above professional experience ($F_{[3-211]} = 4.289$, $p > .005$).

3.2. Correlation Analysis Findings

In the study, Pearson moment product correlation analysis was conducted to reveal the relationship between teachers' teaching-learning conceptions and their curriculum fidelity. The results of the correlation analysis were presented in Table 2.

Table 2. Correlations matrix between teaching-learning conceptions and curriculum fidelity

Variables	1	2	3
Teachers' Teaching-Learning Conceptions			
a. Traditional teaching-learning conception	-	-.162*	.019
b. Constructivist teaching-learning conception	-.162*	-	.232**
Teachers' Curriculum Fidelity			
a. Curriculum fidelity	.019	.233**	-

Note. * $p < .05$, ** $p < .001$

It was found that there was a significant negative relationship between traditional teaching-learning and constructivist teaching-learning conceptions ($r = -.162$, $p < .01$). In addition, it was indicated that while there was no significant relationship between teachers' traditional teaching-learning conception and their curriculum fidelity ($r = .019$, $p > .05$), there was a positive significant relationship between constructivist teaching-learning conception and their curriculum fidelity ($r = .232$, $p < .05$). This result was presented visually in Figure 2.

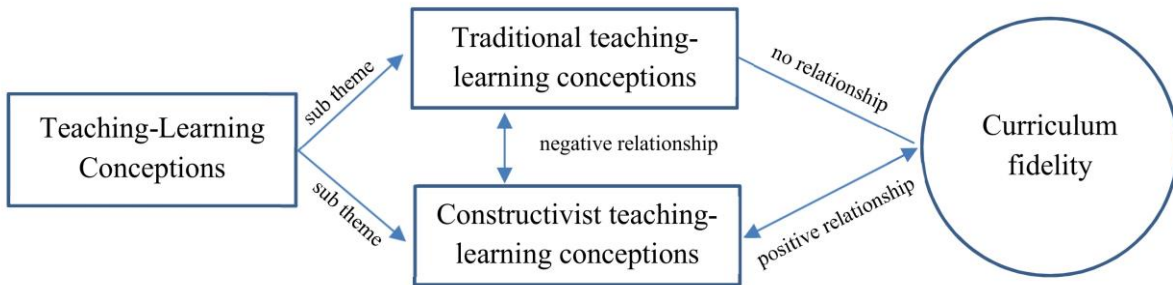


Figure 2. The relationship between teaching-learning conceptions and curriculum fidelity

3.3. Regression Analysis Findings

In the study, linear regression analysis was employed for teachers' teaching-learning conceptions and curriculum fidelity. The result of the linear regression analysis performed was presented in Table 3.

Table 3. Prediction level of teaching-learning conceptions for curriculum fidelity

Predictor Variable	B	Std. Error	β	t	p
(Constant)	63.712	4.105		15.522	.000**
Teaching-Learning Conceptions					
a. Traditional teaching-learning conceptions	.045	.052	.058	.860	.391
b. Constructivist teaching-learning conceptions	.198	.055	.242	3.580	.000**

$R = .239$, $R^2 = .057$, $F_{[2,212]} = 6.447$, $**p < 0.01$

According to the analysis, the model was found to be significant as a whole ($F_{[2,212]} = 6.447$, $p < 0.01$), indicating that the constructivist teaching-learning conception ($\beta = 0.242$) was found to be the most important sub-dimension explaining curriculum fidelity. According to the results of the multiple regression analysis, it was seen that while teachers' teaching-learning conceptions significantly predicted their curriculum fidelity ($R = .239$, $R^2 = .057$, $p < .05$), it was found that teachers' constructivist teaching-learning conception was a significant predictor of their levels of curriculum fidelity ($\beta = 0.242$), unlike the traditional teaching-learning conception ($\beta = 0.058$), revealing that teachers' curriculum fidelity was significantly explained by the constructivist teaching-learning conception.

4. Discussion, Conclusions and Recommendations

The aim of this study was to identify the level of curriculum fidelity and teaching-learning conceptions of teachers, as well as to reveal whether there was a significant difference between their teaching-learning conceptions and their curriculum fidelity in terms of gender, professional experience, and professional experience and to examine the relationship between teaching-learning conceptions and curriculum fidelity.

The first part of the study presented descriptive statistics related to teachers' teaching-learning conceptions and their curriculum fidelity. According to the findings, it was seen that while teachers have a medium level of traditional teaching-learning conception, they have a high level of constructivist teaching-learning conception. In addition, it was found that the level of curriculum fidelity of teachers is moderate. The studies of Cheng et al. (2009) and Sing and Khine (2008) reveal that the majority of the participants adopted the constructivist conception. The participants in this study had a high level of constructivist

teaching-learning conception, which is considered important to put the curriculum in practice successfully.

Statistically significant differences were found in teachers' teaching-learning conceptions according to gender. The results indicated that female teachers have a high level of constructivist teaching-learning conception, compared to their male colleagues. However, Chan, Tan and Khoo (2007) and Chan (2004) found no significant differences between teaching-learning conceptions in terms of gender in their studies. In this respect, more comprehensive research is necessary to conduct in order to reveal explicit effect of the gender on teaching-learning conceptions. Considering the professional experience, it was found out that young teachers with lower professional experience have a higher level of constructivist teaching-learning conception. Teacher education programs of education faculties were restructured in line with the constructivist approach, along with changes in educational philosophy and curriculum in Turkey in 2005. In this regard, pre-service teachers have been educated in line with the constructivist conception since 2006 and they began to work with adopting this concept in schools. The fact that young teachers with lower professional seniority (1-10 years of experience) have higher constructivist teaching-learning conception compared to more experienced teachers (15 year and over) can be seen as reflections of the training they receive in the education faculties. There was no significant difference between teachers' teaching-learning conceptions in terms of educational background in the study.

Limited studies in which curriculum fidelity is examined considering variables as gender, educational background, and professional seniority appear in the literature. To give an example, Burul (2018) found no significant differences in teachers' curriculum fidelity according to the variables of gender, educational background, professional seniority, and school type. In this study, while no significant difference was found in terms of gender and professional experience, a statistically significant difference was found among teachers who have 16-20 year and 21 years and above professional experience in favor of teachers having 20 years or above experiences. However, it is considered that it is not reliable to infer teachers' curriculum fidelity according to the results of the professional seniority variable emerged in this study. Some also argue that teachers' curriculum fidelity cannot be explained according to demographic characteristics (Davis, 2014). Therefore, more studies in which teachers' curriculum fidelity is examined in terms of variables such as gender, educational background, professional seniority, etc.

In the second part of the study, the relationship between the teaching-learning conceptions and curriculum fidelity and the predictive level of the teaching-learning conception for the curriculum fidelity were examined. The findings indicated that while there was no significant relationship between traditional teaching-learning conception and curriculum fidelity, there was a positive relationship between constructivist

teaching-learning conception and curriculum fidelity. It was found that constructivist teaching-learning conception significantly predicted curriculum fidelity, and explained approximately 5% of the total variance. Dusenbury et al (2003) examined factors influencing curriculum fidelity and listed them as “teacher characteristics”, “program characteristics”, “teacher training”, and “institutional characteristics”. One of the characteristics of teachers is their teaching-learning conceptions (Baş, 2015). In this study, it was seen that teach-learning conceptions, which is one of the characteristics of teachers, affect their curriculum fidelity. As a matter of fact, Anderson (1996) states that teachers’ beliefs are closely related to curriculum implementations. Therefore, it can be said that the beliefs have a direct influence on curriculum fidelity.

The curriculum is the main component of the teaching-learning process, and it provides a roadmap for achieving the intended learning outcomes (Bago, 2001). The curriculum is a critical factor for students’ success. Countries with high performance in education can achieve this with the curriculum designed in line with contemporary approaches (Steiner, 2017). No matter how effective the developed curriculum, the way the curriculum is implemented and curriculum fidelity are the main factors identifying the success or failure of the school (Ogar & Awhen, 2015). However, studies indicated that teachers often have difficulty in implementing curricula as intended by developers (Justice et al., 2008). In this respect, studies should be conducted to identify the difficulties faced by teachers in implementing the curriculum. Teachers should be ensured to solve the problems that arise as a result of the studies and thus teachers’ curriculum fidelity should be increased.

It can be stated that the reflection of the innovations in education systems and curriculum within on the implementation is directly relevant to curriculum fidelity of teachers (Carl, 2012; Remillard, 2005). Teachers’ training and their characteristics also affect their curriculum fidelity (Bandura, 1997; Rogan & Grayson, 2003; Spillane, Reiser, & Reimer, 2002). As a matter of fact, in this study, it was revealed that teaching-learning conceptions, which are one of the characteristics of the teachers, have an influence on their curriculum fidelity. Therefore, teachers should have the necessary knowledge, skills, understanding, and belief in order to implement the developed curriculum in line with the aims of the curriculum developers. The basic philosophy of the curriculum and approaches can be provided to pre-service teachers in the education faculties, as well as to the serving teachers through in-service trainings. Studies in the literature indicated that there is a significant relationship between teacher education and curriculum fidelity (Carl, 2012; Fullan, 2007; LaChausse, Clark & Chapple, 2014).

Countries revise their education systems in order to keep up with the changing world, and they regulate their curricula considering the requirements of the information age. However, the effectiveness of the curriculum developed depends on the extent to which teachers implement them in educational settings (Mihalic, Fagan, & Argamaso, 2008;

Richards and Farrell, 2005). In addition, it can be stated that the participations of teachers in the curriculum development process have a considerable influence on their curriculum fidelity. Turkey has the most centralist education system among OECD member countries (Fretwell & Wheeler, 2001). Therefore, curriculum is developed by the Board of Education of the MoNE, and implemented throughout the country. Adequate participation of the teachers working in rural areas is not ensured in the curriculum development process. Furthermore, the needs of rural schools, teachers, and students are often ignored in the curriculum. Baş and Şentürk (2019) state that teachers have difficulties in adapting these practices included in the curriculum in the classroom as some situations do not meet the requirements of the school and the environment. It is considered that this may affect teachers' curriculum fidelity. In addition, the level of teachers' involvement in the curriculum development process ensures the effective achievement of educational reforms (Fullan, 2007). Therefore, it can be argued that the success and sustainability of educational reform initiatives depends on the active participation of teachers in curriculum development (Kubitskey & Fishman, 2006). Thus, teachers contribute to forming of curriculum considering the needs of the environment in which they work. It can be stated that this will increase teachers' curriculum fidelity as well as ensure teachers to implement the curriculum easily.

Curriculum fidelity can be one of the reasons of why educational reforms are successful or unsuccessful (Dusenbury et al., 2003). Therefore, it is vital to examine teachers' curriculum fidelity in order to demonstrate the achievement of the implementation of educational reforms and the curriculum. The importance of the topic attracts more attention in recent years and various studies were conducted on this subject. Further studies can be carried out on the factors that affect teachers' curriculum fidelity as well as their levels of curriculum fidelity. In addition to studies conducted within quantitative research methods, qualitative or mixed method studies can be carried out to include the opinions of teachers and school administrators on the factors affecting curriculum fidelity.

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