Testing the relationships between teachers' curriculum-design orientations and their underlying educational philosophies

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Abstract

Teachers' educational philosophies regulate their curriculum-design orientations, shaping their teaching decisions and practices. However, theoretical assumptions in this relationship were not tested empirically in different contexts. To this end, this cross-sectional survey design study aimed to examine the relationships between teachers' educational philosophies and their curriculum-design orientations using data from 295 in-service teachers from Turkey. The correlations among the teachers' educational philosophies and curriculum design orientations were examined with Pearson coefficients. The stepwise multiple regression technique was used to identify the best set of educational philosophies that significantly estimate curriculum design orientations for each design type. The study revealed that the associations between Turkish teachers' educational philosophies and their curriculum design orientations align with the theoretical literature with some divergence in problem-centered design. The study may contribute to the literature in testing the theoretical assumptions of curriculum design orientations in a non-Western context.

Introduction

People's beliefs guide their behaviors. In the same vein, teachers' educational beliefs regulate their behaviors in the classroom and school. They affect the way they think about what a curriculum is, how it should be designed and enacted, and all other related issues regarding learning and teaching. Teachers' educational beliefs form based on their educational philosophies (Livingston et al., 1995; Yılmaz et al., 2011). The questions constructed by teachers or the materials they prefer to use in instruction are guided by their personal philosophical beliefs (Jenkins, 2009). All teachers have a set of educational philosophies, though some may not be aware of it. Therefore, teachers'

educational philosophies have enormous effects on their instructional decisions, choices, and options because almost all elements of curricula depend on philosophy (Ornstein, 2014). The association between teachers' educational philosophies and curriculum is critical for teaching service because curriculum covers all in-school and out-of-school learning experiences. Indeed, teachers' educational philosophies are the underlying constructs of their envisagement of curriculum, indicating the need to examine teachers' curriculum orientations with respect to their educational philosophies.

What teachers think about curriculum matters and related instructional practices is manifested in the concept of curriculum orientation (Cheung & Wong, 2002). Accordingly, teachers' curriculum-orientation preferences, influenced by their educational philosophies, define their teaching practices (Ng & Cheung, 2002) and enactment of the official curriculum. Teachers' different pedagogical decisions constitute the taught curriculum (Tatebe et al., 2019). That is to say, teachers' curriculum-orientation preferences are among the factors that create the difference between the official curriculum and taught curriculum.

Though there are a number of theoretical texts regarding curriculum orientation, empirical studies elaborating on teachers' curriculum orientations are scarce (Cheung & Wong, 2002) There are some studies investigating teachers' curriculum orientations and their differentiations in terms of some demographic variables (Ashour et al., 2012; Babin, 1979; Cheung, 2000; Cheung & Ng, 2000; Cheung & Wong, 2002; Jenkins, 2009; Salleh et al., 2015; Singleton, 2013; Tuncer et al., 2019; Yıldız, 2018). However, studies focusing on the relationship between curriculum-design orientations and teacher beliefs, educational philosophies in particular, are scarcer (Baş & Senturk, 2019; Kozikoğlu & Uygun, 2018) despite the given link between teachers' educational beliefs and curriculum orientations (Ng & Cheung, 2002; Jenkins, 2009).

Conceptual literature suggests that curriculum-design orientations rely on certain educational philosophies, which are not tested empirically. How these texts are reflected in practice is a matter of question. Additionally, it should be noted that the classifications of curriculum-design orientations and matching them with their underlying educational philosophies are defined by Western cultures, which may not work in other cultures and are not tested adequately. The current study set out to empirically test the theoretical assumptions

regarding the associations between educational philosophies and curriculum-design orientations based on data from in-service teachers in Turkey. Turkey is a developing country, nourishing from both Western and Eastern cultures. Therefore, it serves as a good model for testing the theory in a different culture. Besides, the Turkish education system is highly centralised, leaving little room for teachers to exert agency in curricular decisions. Using the stepwise regression method, this study reveals which educational philosophies underlie which curriculum orientations in the given context. This study aimed to examine the relationships between teachers' educational philosophies and their curriculum-design orientations. The research questions are as follows:

1. Is there a relationship between teachers' educational philosophies and curriculum-design orientation preferences?
2. Do teachers' educational philosophies predict their curriculum-design orientation preferences?

Theoretical framework

Curriculum-design orientations

Curriculum orientation is "a collective set of beliefs about curriculum elements such as curriculum intent (aims, goals, objectives), content, teaching strategies, and instructional assessment" (Cheung & Wong, 2002, p.226). Although curriculum orientation is not the sole determinant of teachers' instructional decisions, it will affect their practices to some extent. For example, when teachers' curriculum orientations contradict the formal curriculum, they may not wish to enact it and may alter it in implementation (Cheung & Wong, 2002). This refers to a difference between official and taught curricula. While official curriculum is a fixed document, different pedagogical decisions of teachers and schools constitute taught curriculum, affecting teaching and learning practices (Billet, 2006; Tatebe et al., 2019).

There are various curriculum orientations in the literature. Eisner and Vallance (1974) classify them as academic rationalism, curriculum as technology, cognitive processes, self-actualisation, and social reconstruction. With respect to the orientation towards curriculum designs, most curriculum designs are modified versions of three basic designs, which are subject-centered, learner-centered, and problem-centered designs (Ornstein & Hunkins, 2016). This study supports this classification.

The first of these curricular designs is the subject-centered design, which is the oldest and widely used one globally, drawing on Plato's academic idea. Subject-centered designs are based on knowledge and content and have classifications including subject design, discipline design, broad-fields design, correlation design, and process design (Ornstein & Hunkins, 2016). In this design, in which the aim is for students to learn the content knowledge and accumulate information, the curriculum is composed of subjects, and it is complemented by the 'lecture' teaching style (Henson, 2006). Students are mostly passive during the instruction, and teachers transmit the content prepared by specialists to students. The content is assorted into disciplines, courses, and subjects, and sequenced in the curriculum in this design orientation. This design can be labeled as teacher-centered, and the focus is on learning the universal subjects. The strengths of subject-centered curriculum designs include people's familiarity with it, tight organisation and rigid sequencing, more straightforward assessment, and room for textbook use while it cannot meet the unique interests and needs of students, and it is not an effective motivator for students (Henson, 2006). This so-called traditional approach, which was dominant until the 1970s, involved two assumptions: a) knowledge is transferred from the knower to the person who is assumed to not know the content; and b) instruction is performed linearly, and the content moves from basic to complex and is arranged in line with the prerequisites (Demeuse & Strauven, 2016). Though commonly used across the world, this type of curriculum design was criticised due to centrality of subject matter, leading to new types of designs such as learner-centered or problem-centered designs.

Unlike subject-centered designs, learner-centered designs locate the learner to the center of curriculum development. It was asserted in the early 1900s that the program's focus needed to be students, which was then named learner-centered designs (Ornstein & Hunkins, 2016). This design orientation aims to let learners understand their strengths and weaknesses and make them actors in the learning process. To enable learners' active participation, their needs, interests, and expectations are taken as basic elements to set off in the learning journey. As students participate in the arrangement of their experiences in the school, children's contextual factors are considered, and students also engage in meta-learning (Emes & Cleveland-Innes, 2003). This design is used at preschool and elementary levels to a greater extent since content knowledge of the disciplines is a dominant organiser for the curriculum at higher levels (Ornstein & Hunkins,

2016). Learner-centered designs include *child-centered designs*, in which the emphasis is on child's interests and needs; *experience-centered designs*, in which the emphasis is on child's experiences and needs; *radical design*s, which highlight natural environments rather than plans; and *humanistic design*s, which stress experiences, interests, needs, and free environments.

The last design type is problem-centered design. Centering on real-life problems experienced by individuals and societies, problem-centered designs engage in the needs of societies that are fulfilled through placing students in a social setting planned before students come to school, emphasising students' development and content (Ornstein & Hunkins, 2016). This design engages in real-world problems instead of artificial problems or activities in textbooks (Ellis, 2004). It focuses on social needs, and common learning experiences are prioritised rather than separate courses to cultivate skillful and prudent individuals who will take active roles in solving social problems (Adıgüzel, 2017). This type of curricula involves multifaceted learning endeavors and an interdisciplinary perspective. Within problem-centered designs, there are various designs differing in the degree of stress attached to the social needs, including *life-situations design*, focusing on life situations and social problems, *reconstructionist design*, concentrating on society and its problems, and *postmodern design*, dwelling on lived experiences. Curriculum-design orientations are not limited to these three basic types; however, the current study adopts this classification since it offers the basic design types.

Educational philosophies

Philosophy offers a skeleton for educators to design their school and classrooms as well as helping them define their aims and answer critical questions such as which subjects are more valuable, which methods or materials should be used in instruction, or how students should be evaluated (Ornstein, 2014). Tyler (1949) also presents philosophy as a criterion in the selection of curricular aims. However, its effects are not only limited to curriculum development, but it also has a great effect on curriculum enactment. Teachers' educational philosophies play a significant role in the taught curriculum. An examination of literature suggests five major educational philosophies: perennialism, essentialism, progressivism, existentialism, and reconstructionism. These educational philosophies contribute to teachers' instructional decisions and practices.

Of the five major educational philosophies, perennialism is the oldest and the most conservative one among educational philosophies (Ornstein & Hunkins, 2016). It is based on realism, idealism, and Thomism. In perennialism, school is seen as an institution where individuals' intellect is cultivated, and it is based on perennial and repetitive principles (Gutek, 2005). Perennialism posits that values and principles do not change from time to time or from one region to another. Schools should teach these principles. It posits that universal and unchanging truths should always constitute the curriculum (Martin & Loomis, 2007). This philosophy is subject-centered. The curriculum includes facts and timeless knowledge, grammar, logic, history, reading, writing, arithmetic, foreign language, great books, and assessment based on measuring students' mastery level (Akpinar, 2017). Teachers with this educational philosophy encourage students to think rationally, use the Socratic method and oral exposition, and explicitly teach traditional values (Ornstein & Hunkins, 2016).

Similar to perennialism, essentialism is also based on realism and idealism. It is widely adopted across the world for the most extended period. It aims to preserve the extant culture. The role of education is to teach the traditional best knowledge, values, art, and abilities that have been experienced as beneficiary. An essentialist curriculum involves subject-based content such as literacy, history, mathematics, science, literature, and language. These subjects are taught to students in a disciplined way. Abiding by authority is taught to students. So teachers need to be experts in their teaching areas, and they should transfer their knowledge, i.e., the traditional values and knowledge, to students. Hence, it recommends a teacher-centered education, organising the teaching of these subjects from simple to complex and from concrete to abstract, and students' memorisation of content is measured in the evaluation process to ensure academic rigor. (Akpinar, 2017; Gutek, 2005; Henson, 2006; Moss & Lee, 2010).

As a reaction to above-mentioned educational philosophies emerged the third educational philosophy. Progressivism is different from the previous ones in that it does not form the basis of subject-centered design. Progressivism is based on pragmatism, and it is considered a reform movement in education (Ornstein & Hunkins, 2016). It is a direct contrast to essentialism and perennialism (Moss & Lee, 2010). Developed in American education, it is a reaction against traditional education (Gutek, 2005). The reality changes constantly, and it

is the usefulness of knowledge we should care about. It has a stance against authoritative teaching, memorisation, standard textbooks, punishment, and static aims. It envisions an interdisciplinary curriculum developed based on the needs and interests of students. Schools aim to promote democratic living and teach students the skills needed in life rather than the static content. These skills include cooperation, self-discipline, scientific thinking, problem solving, and a democratic attitude. Therefore, teachers are seen as guides rather than knowledge transmitters. The interdisciplinary contents are selected based on students' needs (Akpinar, 2017; Ornstein & Hunkins, 2016).

Similar to progressivism, the fourth educational philosophy, reconstructionism, is also based on pragmatism, and its roots are related to American education. However, according to this philosophy, education should aim to reconstruct society to remove poverty, ignorance, war, or racism (Henson, 2006). Emerged after the Second World War, it aims to restructure the society because progressivism ignored social problems. Schools and education are tools of this reconstruction. Teachers are seen as agents of changing society. Since it aims to remove social problems, the curriculum is problem-centered. Teaching-learning is practice-based, and democracy is prioritised. Students are taught to analyse and question social problems and take action to correct inequalities. So, while progressivism is learner-centered, this philosophy is society- and problem-centered, aiming to consider the problems of all social classes (Akpinar, 2017; Guclu, 2019; Henson, 2006).

The last educational philosophy differs from the previous ones in its perspective on education as it is a humanistic philosophy. Existentialist educational philosophy is based on existentialism, and it focuses on individuals' freedom. According to this educational philosophy, education should aim to free individuals, make them aware of their freedom, and education should be designed in a way to enrich people's perspectives and make informed choices. Social and natural phenomena should be presented to students to help them realise themselves. So the feelings, actions, and thoughts of students are very crucial. It aims to educate the person as a whole. Therefore, subjects or intellectual development are in second place. This educational philosophy is a bit different from the others in that it focuses on criticising the extant philosophies (Sonmez, 2009; Yılmaz et al., 2011).

The philosophical bases of curriculum design

Philosophy is at the core of the curriculum development process. Each stage of curriculum design, the selection of the aims for instance, is affected by the philosophies of the stakeholders. Besides, teachers' educational philosophies dictate how they enact the official curriculum, shaping the taught curriculum. A review of theoretical work (Adıgüzel , 2017; Henson, 2006; Mishra, 2020; Ornstein, 2014; Ornstein & Hunkins, 2016; Tanner & Tanner, 1980) suggests that subject-centered curriculum design is mainly based on essentialism and perennialism. However, the subtypes of subject-centered design such as process design, correlation design, or broad-fields design can be associated with progressivism. The underlying philosophies of learner-centered curriculum design are progressivism and reconstructionism. The underlying philosophies of the humanistic design, a subtype of learner-centered design, are reconstructionism and existentialism. Finally, the underlying philosophy of problem-centered designs is reconstructionism. Whether this theoretical mapping conforms to the empirical evidence in different contexts is a matter in question, which constitutes the focus of this study.

Methodology

This study adopted a cross-sectional survey design. A cross-sectional survey collects information at one point in time from a sample from a predetermined population (Fraenkel & Wallen, 2009, p. 391). This design is adopted in the current study because it aimed to reveal teachers' current educational philosophies and curriculum-design orientation preferences. The data obtained from this survey study were analysed with correlation analysis and the stepwise multiple regression technique. The correlations between the independent and dependent variables were explored. The predictor variables were teachers' educational philosophies, while the dependent variables were their curriculum-design orientation preferences.

Participants and procedure

The participants of this study were 295 teachers working in various school levels and types in Afyonkarahisar province in Turkey, selected through the convenience sampling method. After obtaining the data-collection approval from the local education authorities, the data were collected from volunteering

teachers during the spring semester of 2019. Of the teachers, 125 were female (42.4%), while 170 were male (57.6%). The teachers taught at preschool (10.8%), elementary (47.5%), and secondary levels (41.7%). The teachers in the sample had a similar distribution in terms of seniority: 1–5 years (16.3%), 6–10 years (30.8%), 11–15 years (16.6%), 16–-20 years (13.6%), and 21 years and above (22.7%).

Measures

The Educational Beliefs Scale was used to identify teachers' educational philosophies. The Teachers' Curriculum Design Orientations Preference Scale was used to determine teachers' curriculum-design orientations. Details of the scales are provided below.

Educational Beliefs Scale (EBS)

EBS was developed by Yılmaz et al. (2011) to identify teachers' educational beliefs. This five-point Likert-type scale consists of 40 items gathered under the factors of perennialism, essentialism, progressivism, reconstructionism, and existentialism. The validity analyses of the scale were performed through exploratory (EFA) and confirmatory factor analyses (CFA). Cronbach alpha coefficients of the factors were calculated as .70, .70, .91,.81 and .89, respectively. In the current study, the Cronbach alpha internal consistency coefficients of the factors were .76, .84, .83, .81, and .85, respectively. Thus, the measurement in this study through EBS was reliable.

Curriculum Design Orientations Preference Scale (CDOPS)

This scale was developed by Baş (2013) to determine teachers' preference for curriculum-design orientations. There are 30 items in this five-point Likert-type scale. The scale factors are subject-centered curriculum-design orientation, learner-centered curriculum-design orientation, and problem-centered curriculum-design orientation. The validity analyses of the scale were performed through EFA and CFA. Cronbach alpha coefficients of the factors were calculated as .86, .85, and .87, respectively. In the current study, the Cronbach alpha internal consistency coefficients of the factors were .80, .78, and .77, respectively. Thus, the measurement in this study through EBS was reliable.

Data analysis

The Pearson product-moment correlation coefficients were first calculated to reveal the relationships among teachers' educational philosophies and curriculum orientations. The stepwise multiple regression technique was then used to identify the predictor educational philosophies that best explain a specific curriculum-design orientation.

For stepwise multiple regression, the data set was examined to determine if it met the regression assumptions. To this end, Mahalanobis distance values were calculated to identify outlier values. Nine outlier values were spotted, and they were excluded from the data set. Then normality of the distribution of the variables in the data set was tested. The normality was examined with skewness and kurtosis values. The kurtosis values of the variables ranged between .85 and -.59, and the skewness values ranged between .60 and -.35. Skewness and kurtosis values ranging between -1.5 and +1.5 refer to the normal distribution of the data (Tabachnick & Fidell, 2013). Therefore, the variables in the data set in this study had a normal distribution.

Another multiple regression assumption is about the multicollinearity problem among the independent variables. To check this, variance inflation factor (VIF) values among the independent variables were examined. The VIF values of the independent variables ranged between 2.25 and 1.23. VIF values below 10 show that there is no multicollinearity problem (Field, 2013). So, there was not this problem in this data set.

The final assumption to check was whether there was an autocorrelation problem among the dependent and independent variables. To test the autocorrelation problem, the Durbin-Watson coefficient (d) was calculated. The Durbin-Watson coefficient was calculated as d=1.88 between subject-centered curriculum orientation and educational philosophies; d=1.76 between learner-centered curriculum orientation and educational philosophies; and d=1.78 between problem-centered curriculum orientation and educational philosophies. A Durbin-Watson coefficient ranging between 1.5 and 2.5 means no autocorrelation problem (Tabachnick & Fidell, 2013). So, there was not an autocorrelation problem regarding this data set.

Results

The correlations among educational philosophies and curriculum-design orientations were first examined. The Pearson product-moment correlation coefficients regarding the relationships between the variables are presented in Table 1.

	1	2	3	4	5	6	7
1.Subject-centered	1						
2.Learner-centered	-.034	1					
3.Problem-centered	.089	.661**	1				
4.Progressivism	-.010	.670**	.606**	1			
5.Existentialism	-.100	.546**	.563**	.715**	1		
6.Reconstructionism	.263**	.395**	.525**	.507**	.480**	1	
7.Perennialism	.444**	.225**	.358**	.318**	.249**	.520**	1
8.Essentialism	.583**	-.172**	-.080	-.201**	-.259**	.064	.256**
Min.	1.50	2.70	3.00	3.00	3.00	2.57	2.13
Max.	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Mean	2.92	4.27	4.28	4.29	4.54	4.02	3.98
SD	.61	.43	.42	.46	.44	.58	.60

**. Correlation is significant at the 0.01 level (2-tailed).

Table 1. Correlation coefficients among the variables

The correlation analysis revealed a positive, significant, and medium-level relationship between subject-centered curriculum-design orientation and essentialism and perennialism. There was a negative, significant and small relationship between subject-centered orientation and reconstructionism (r=. 583; r=.444; r=,263, respectively).

Learner-centered curriculum-design orientation had a positive, significant, and medium-level relationship with progressivism, existentialism, and reconstructionism (r=.670; r=.546; r=.395, respectively). This orientation had a positive, significant, and small relationship with perennialism (r=.225). On the other hand, it had a negative, significant and small relationship with essentialism (r=-.172).

Problem-centered curriculum-design orientation had a positive, significant, and medium-level relationship with progressivism, existentialism, reconstructionism, and perennialism (r=.606; r=.563; r=.525; r=.358, respectively).

Stepwise regression was used to identify the educational philosophies that best predicted the curriculum-design orientations. The stepwise multiple regression analysis results regarding the educational philosophies predicting subject-centered curriculum orientation are presented in Table 2.

Predictors	R	R 2	ΔR2	F	ΔF	B	SE	β
Model 1	0.58	0.34	0.34	150.96*	150.96*			
(Constant)						1.90	0.09	
Essentialism						0.40	0.03	0.58*
Model 2	0.66	0.43	0.09	111.43*	47.79*			
(Constant)						0.75	0.19	
Essentialism						0.34	0.03	0.50*
Perennialism						0.32	0.05	0.32*
*significant at the 0.05 level								

Table 2. Stepwise multiple regression results regarding the variables predicting subject-centered curriculum orientation

As shown in Table 2, there were two models that statistically significantly predicted subject-centered curriculum-design orientation. In Model 1, the educational philosophy of essentialism explained 34% of the subject-centered curriculum-design orientation (R=0.34). In Model 2, the educational philosophy of perennialism contributed significantly and positively to subject-centered curriculum-design orientation (β=.32; p<.05). Perennialism explained 9% of the variance in subject-centered curriculum-design orientation (ΔR2=0.09). Both essentialism and perennialism predicted 43% of the subject-centered curriculum-design orientation concomitantly.

The stepwise multiple regression analysis results regarding the educational philosophies predicting learner-centered curriculum orientation are presented in Table 3.

Predictors	R	R 2	ΔR2	F	ΔF	B	SE	β
Model 1	0.67	0.45	0.45	239.21*	239.21*			
(Constant)						1.58	0.18	
Progressivism						0.63	0.04	0.67*
Model 2	0.68	0.46	0.01	123.63*	4.88*			
(Constant)						1.37	0.20	
Progressivism						0.54	0.06	0.57*
Existentialism						0.13	0.06	0.14*

*significant at the 0.05 level

Table 3. Stepwise multiple regression results regarding the variables predicting learner-centered curriculum orientation

Two statistically significant models predicted learner-centered curriculum-design orientations. In Model 1, the educational philosophy of progressivism predicted 45% of learner-centered curriculum orientation (R=0.45). In Model 2, existentialism contributed positively and significantly to the learner-centered curriculum-design orientation (β=.14; $p < .05$). In Model 2, existentialism explained 1% of the variance in learner-centered curriculum orientation ($\Delta R2$=0.01).

The stepwise multiple regression analysis results regarding the educational philosophies predicting problem-centered curriculum orientation are presented in Table 4.

Predictors	R	R 2	ΔR2	F	ΔF	B	SE	β
Model 1	0.61	0.37	0.37	169.74*	169.74*			
(Constant)						1.92	0.18	
Progressivism						0.55	0.04	0.61*
Model 2	0.66	0.43	0.06	110.39*	32.68*			
(Constant)						1.65	0.18	
Progressivism						0.41	0.05	0.46*
Reconstructionism						0.21	0.04	0.29*
Model 3	0.67	0.45	0.02	79.43*	10.41*			
(Constant)						1.37	0.20	
Progressivism						0.30	0.06	0.33*

Predictors	R	R 2	ΔR2	F	ΔF	B	SE	β
Reconstructionism						0.19	0.04	0.26*
Existentialism						0.19	0.06	0.20*
*significant at the 0.05 level								

Table 4. Stepwise multiple regression results regarding the variables predicting problem-centered curriculum orientation

As shown in Table 4, three statistically significant models predicted problem-centered curriculum-design orientations. In Model 1, the educational philosophy of progressivism predicted 37% of teachers' problem-centered curriculum-design orientation preferences (R=0.37). In Model 2, reconstructionism contributed positively and significantly to problem-centered curriculum-design orientation (β=.29; p< .05). Reconstructionism predicted 6% of problem-centered curriculum-design orientation. Besides, existentialism also contributed positively and significantly to Model 3 (β=.20; p< .05). In Model 3, existentialism predicted 2% of the problem-centered curriculum-design orientation (ΔR2=0.02). Concomitantly, progressivism, reconstructionism, and existentialism explained 45% of the variance in problem-centered curriculum orientation (R2=0.45).

Discussion

The literature on curriculum-design orientations suggests that certain curriculum designs are based on certain underlying educational philosophies. In line with this, teachers' educational philosophies shape their curriculum-design orientation preferences, which in turn determine their teaching practices in the taught curriculum. However, the association between teachers' educational philosophies and their curriculum-design orientations is an under-researched area. Further, the theoretical work on the underlying philosophies of curriculum design is based on Western perspectives which is reflected in other parts of the world, and is in need of examination. The current study examined the relationships between in-service Turkish teachers' educational philosophies and their curriculum-design orientation preferences. Using the stepwise multiple regression technique, it aimed to identify the best set of predictor educational philosophies that significantly explain teachers' curriculum-design orientations. Each curriculum-design orientation was analysed separately.

Subject-centered curriculum-design orientation was positively associated with essentialism and perennialism, while it was negatively associated with reconstructionism. The regression analysis revealed that the significant predictor variables of subject-centered curriculum orientation were essentialism and perennialism. Essentialism was more dominant. It predicted 34% of the change in subject-centered curriculum-design orientation, while this percentage was 9% for perennialism. The literature on curriculum-design orientations lends its support to this finding. In theoretical works, it is stated that subject-centered curriculum design is based on essentialism and perennialism. This suggests that the association between Turkish teachers' subject-centered curriculum-design orientation preferences and their educational beliefs is in line with the international literature. Besides, these results are very similar to limited empirical research in the literature (Baş & Senturk, 2019; Kozikoğlu & Uygun, 2018). Though subtypes of subject-centered design such as process design, correlation design, or broad-fields design can be associated with progressivism, the instrument used in the current study did not distinguish between subtypes of curriculum designs. The analysis did not reveal any significant relationship between progressivism and subject-centered curriculum-design orientation.

According to the theoretical work, the underlying philosophy of learner-centered curriculum design is progressivism. The humanistic design, another subtype of learner-centered design, is associated with reconstructionism and existentialism. Interestingly, in the current study, the learner-centered curriculum-design orientation was associated with all educational philosophies significantly in the correlation analysis at varying degrees. This may be related to the fact that after the curriculum change in 2005, when the constructivist learning approach was adopted in K-12 curricula in Turkey, learner-centeredness was praised by all education stakeholders. Therefore, regardless of their actual educational philosophies, all teachers may have favoured learner-centered design due to the social desirability effect. However, the stepwise regression result revealed that the significant predictors of learner-centered curriculum-design orientation were only Progressivism and Existentialism. Similar results were obtained in similar studies (Baş & Senturk, 2019; Kozikoğlu & Uygun, 2018). This result is in line with the theoretical assumptions, but it should be noted that while progressivism predicted 45% of the learner-centered curriculum-design orientation, existentialism predicted only 1%. So we can argue that Turkish

teachers who had progressivism as their educational philosophies preferred learner-centered curriculum-design orientation.

Theoretical texts posit that the underlying philosophy of problem-centered designs is reconstructionism. In the current study, the best predictors of problem-centered curriculum-design orientation were progressivism, reconstructionism, and existentialism, with the percentages of 37%, 6%, and 2%, respectively. Other empirical studies support this finding (Baş & Senturk, 2019; Kozikoğlu & Uygun, 2018). Although the result that reconstructionism predicted problem-centered curriculum-design orientation is in line with the literature, this study revealed that it was mainly predicted by progressivism, which contradicts the theoretical assumptions. Though these two educational philosophies are related, they are also different in nature. Reconstructionism actually criticises progressivism for lacking an aim in education, focusing on the individual and not foreseeing barriers to cultural change (Guclu, 2019). Similarly, problem-centered designs focus on real-world problems. Teachers encourage students to identify social problems and to take action to change them (Ellis, 2004), while the focus of the learner-centered design is more on the individual. Regarding this result, we can interpret that reconstructionism may be an unregarded educational philosophy in Turkey. A content analysis of primary and secondary curricula in Turkey in terms of social problems such as human rights or sexuality revealed that these issues were not covered in the curricula or the null curriculum (Tatar & Adıgüzel , 2019).

The current study reveals that there is some divergence in the underlying educational philosophies of teachers' curriculum-design orientations in the Turkish context when compared to international theoretical work. What this tells us is that the Turkish teachers may be experiencing clashes between what they believe, and what they should do in educational settings. For example, problem-centered design was associated with all educational philosophies or the main predictor of problem-centered design was progressivism as opposed to reconstructionism, which are not expected results. This clash may interfere with teachers' behaviors in the classroom.

There is a global appeal and attempt to integrate 21st century skills to education in schools due to the changes in the economic and social order in the world. However, integrating 21st century skills into schools is a challenging process

(Soland et al., 2013). Aligning the curricula to 21st century skills alone is not adequate for a successful integration. Teaching 21st century skills is not independent of human capital (Rotherham & Willinghan, 2009). Teachers are the key stakeholders in this mission. The curricula may focus on skills rather than solely content; however, teachers generally depend on content due to some reasons such as large-scale assessments based on subject-knowledge and their inability in teaching skills (Erdem, 2019). Another reason for this may be lying in their underpinning educational philosophies. The teachers in Turkey were raised in an essentialist and perennialist education system; however, learner-centered education is praised in faculties of education, media, and other related platforms. A teacher seeming to favour learner-centered curriculum-design orientation yet possessing an educational philosophy of perennialism would experience clashes in what they should do in the classroom and what they believe. The 21st century skills education requires a learner-centered curriculum design rather than a subject-centered design, also requiring teachers to be open to teach from this perspective. However, a teacher believing in transmission model in teaching cannot teach students these skills no matter how supportive they seem in favour of learner-centered curriculum design.

There have been various attempts to revise K-12 curricula in Turkey for many years, yet the expected advancements in education have not been achieved. Current research in Turkey has revealed problems in terms of curriculum fidelity, indicating wide gaps between the official curriculum and taught curriculum (Dikbayır & Bümen, 2016; Kara et al., 2017). Teachers' curriculum-design orientations and their underlying educational philosophies may be a critical factor in the gap between official curriculum and taught curriculum.

Limitations and future research

There are some limitations in the current study. First, the instrument on curriculum-design orientations measured the basic curriculum designs. For a better analysis, the subtypes of curriculum designs may be measured in future studies. Second, the participants of this study were only teachers from Turkey. Cross-country comparison studies may give clues about cultural differences in teachers' educational philosophies and curriculum-design orientations. Future studies may realise this comparison. Third, the measurement of teachers' educational philosophies is limited to a quantitative scale in this

study. Measuring educational philosophies through quantitative measures is challenging. Qualitative studies are needed to support the findings of quantitative studies. Fourth, the scales in this study are self-assessment measures. How teachers' perceptions of their educational philosophies and curriculum orientations are reflected in their in-class behaviors could also be observed. Teachers' beliefs about curriculum design may differ from their curriculum implementation (Cheung & Wong, 2002). More studies from different cultures are needed for providing empirical evidence to the underlying educational philosophies of curriculum-design orientations.

Conclusion

This study is one of the few seeking empirical evidence to theoretical assumptions on the underlying educational philosophies of teachers' curriculum-design orientations. This is significant because teachers' beliefs and educational philosophies affect their curriculum-design orientations and teaching practices, i.e., a teacher with a problem-centered curriculum-design orientation tends to include social problems in teaching practices (Cheung & Wong, 2002; Richardson et al., 1991). Working with participant teachers from a non-Western culture makes it more significant in the sense of testing how these theoretical assumptions work in practice, in different contexts. We can conclude that the associations between Turkish teachers' educational philosophies and their curriculum-design orientation preferences are mainly in compliance with the widely accepted theoretical works on curriculum-design orientations.

The underlying educational philosophies of subject-centered and learner-centered curriculum-design orientations were found as essentialism and perennialism, which was expected. The main divergence from the theoretical assumptions on curriculum orientations was identified in problem-centered curriculum-design orientation. The main predictor of problem-centered curriculum-design orientation was progressivism rather than reconstructionism, though it was also a significant predictor. This is interpreted with the given peculiar context of Turkey. Essentialism and perennialism are regarded as traditional philosophies, while progressivism and reconstructionism are contemporary philosophies (Ornstein & Hunkins, 2016). Existentialism can also be regarded as contemporary philosophy. This study revealed that

contemporary educational philosophies are associated with the learner and problem-centered curriculum-design orientations, while traditional philosophies are related to subject-centered orientation, which is in line with both theoretical literature and empirical studies (Baş & Senturk, 2019; Borekci & Uyangor, 2021; Kozikoğlu & Uygun, 2018).

The divergence from the theoretical assumptions on teachers' curriculum orientations revealed in the current study indicates that not all these theories are in conformity with teachers' beliefs in Turkish contexts, and there are some clashes between the teachers' educational philosophies and which curriculum-design orientation they favour, which may account for the differences between official and taught curricula as well as some of the failure in achieving educational aims. This has implications for policy makers, initial teacher educators, and researchers. Both in preservice and in-service periods, teachers should be made aware of educational philosophies and their accompanying curriculum designs. Deficiencies in implementing learner-centered and problem-centered curricula may be related to teachers' educational philosophies, which may require interventions both in preservice and in-service periods. Ministries of national education focus on revising curricula. They should also place emphasis on teachers' educational philosophies underpinning their curriculum-design orientations, instructional decisions and practices, and design interventions to change them in the desired direction. Yet, to achieve this, more empirical research on the relationship between teachers' curriculum-design orientations and their educational philosophies is needed in different context to better understand the nature of this relationship. This study demonstrated some divergence from the theoretical assumptions in a non-Western context.

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