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TEACHER EDUCATION & DEVELOPMENT | RESEARCH ARTICLE

An analysis of correlations between prospective teachers' philosophy of education and their attitudes towards multicultural education

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Abstract: This study aims to analyse the correlations between educational philosophy adopted by prospective teachers and their attitudes towards multicultural education. The research data were collected in September 2017 by administering "philosophical preference evaluation scale" and "prospective teachers' attitudes towards multicultural education scale" to prospective teachers. In conclusion, medium level negative correlations were found between attitudes towards multicultural education and modern philosophy of education whereas positive and significant correlations were found between postmodern philosophies of education and attitudes towards multicultural education. The findings obtained through regression analysis suggested that the regression model for predicting teachers' attitudes towards multicultural education through educational philosophies prospective teachers had adopted was statistically significant. Forty percent of the variation for attitudes towards multicultural education was explained by modern philosophies of education and postmodern philosophies of education-which were the sub-scales of educational philosophy.

ABOUT THE AUTHOR

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PUBLIC INTEREST STATEMENT

The diversity of ethnic, religious, cultural, linguistic composition situated in the societies kneading and to be canalized within the education system is highly dependent on educators understanding in this issue. In this sense educational philosophy adopted by educators can be an important reference as to how to integrate cultural differences into the education system. From the point of this view, I aimed to investigate the correlations between educational philosophy adopted by prospective teachers and their attitudes towards multicultural education. The study was conducted with 391 prospective teachers attending the Educational Faculty of Dicle University in September 2017. It was found that prospective teachers adopting modern educational philosophies have negative attitudes towards multicultural education whereas prospective teachers adopting postmodern educational philosophies have positive attitudes towards multicultural education. Besides, it was concluded that the educational philosophies adopting prospective teachers are an important determinant for their attitudes towards multicultural education.

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1. Introduction

The World has been rapidly changing and the ethnical, religious, linguistic and sexual bias composition of each country has varied. This diversity can lead to problems such as not being able to benefit from social and economic possibilities and from democratic rights equally. This situation has forced countries to generate policies to eliminate the potential problems that such diversity can cause, and thus the reforms made in educational services has been in the centre of the policies in question. In this context, all countries began to update their educational system, educational philosophy and curricula. Thus, Turkey also revised its curricula and placed the educational philosophy of progressivism at the basis. It was accordingly emphasised that the mentality of rote learning was ended in curricula and it was pointed out that an approach taking students' current experiences into consideration, supporting and developing their problem solving was adopted. This new curriculum aimed to put a new mentality which was student and activity centred, which considered individual differences and which enabled students' interaction with the environment into practice (Ministry of National Education, 2005). However, it is also very important how much of these changes are carried into effect as much as changes made in the curriculum. From this aspect, particularly although it is stated that the curriculums applied in Turkey were prepared accordance with progressivism philosophies, the studies examined how much the philosophies on which the curriculum is based reflects into practice revealed that mentioned the revision can not the exactly correspond to in practise. Many research conducted in Turkey (Aykaç & Ulubey, 2012; Sönmez, 2014; Ulubey & Aykaç, 2017), show that altough existing teaching programs based on the educational philosophy of progressivism, it is adopted mostly a education philosophy of essentialist in practise.

The reflections of changes made to the curricula into practice can only be possible through teachers' adoption of the reforms made. The reason for this is that if there are no changes in teachers' mentality of education in parallel to the approach on which the curricula are based, reforms made remain in the curricula, they cannot go beyond that and they cannot be not reflected in practice. In this sense, organising the process of education in accordance with contemporary currents depends on teachers' abandoning traditional currents and adopting the contemporary ones and shaping the educational-instructional process from the perspectives of different racial, ethnic and cultural groups. Therefore, issues such as educational beliefs, educational philosophies, democracy education and multicultural education- which are needed by today's society- have become the topics frequently focused on in research concerning teacher training. Setting out from this point, this study focuses on the correlations between educational philosophies prospective teachers adopt and their attitudes towards multicultural education.

1.1. Philosophies of education

Educational philosophy is a branch of education/field of philosophy evaluating all the theories and applications related to education from a holistic perspective (Erden, 1998), trying to describe the problems hindering education and concepts, thoughts and principles orientating education and shaping educational policies and applications (Kıncal, 2009). Educational philosophy shapes teachers' educational beliefs (Koçak, Ulusoy, & Önen, 2012; Livingston, Mcclain, & Despain, 1995; Pajares, 1992; Rideout, 2006; Seshadri, 2008; Yılmaz, Altinkurt, & Çokluk, 2011); it affects their attitudes, values and decisions; and it is determinant in organising the classroom environment (Abell & Roth, 1992; Austin & Reinhardt, 1999; Brown & Rose, 1995; Kagan, 1992; Nespor, 1987); implementing learning activities (Baş, 2015; Chan & Elliot, 2004; Haney, Lumpe, Czerniak, & Egan, 2002; Levitt, 2001); in in-class interaction (Baş, 2015; Duman & Ulubey, 2008) and in the degree of openness to reforms (Higgins & Moseley, 2001; Tobin & McRobbie, 1996; Trigwell, Prosser, & Taylor,

1994). Thus, it may be said that it is necessary for educators to have an idea of educational philosophies they adopt so that they can improve their instructional practice.

1.2. A classification of educational philosophies

Several suggestions are available in relation to the classification of educational philosophies in the literature. For instance, Wiles and Bondi (2007) consider educational philosophies under six headings: perennialism, essentialism, progressivism, re-constructionism, naturalism and existentialism. Apps (1973), on the other hand, analyses educational philosophies under five headings: perennialism, essentialism, progressivism, re-constructionism and existentialism. Yılmaz et al. (2011) also make a classification similar to the one made by Apps (1973). In their scale development study aiming to determine teachers' educational beliefs, Yılmaz et al. (2011) put forward a five-factor structure in relation to educational philosophies. The most widely accepted classification in the literature of educational philosophies is as in the following: perennialism, essentialism, progressivism and re-constructionism. (Demirel, 2012; Gutek, 1988; Kıncal, 2009). Table 1 shows a summary of classifications of educational philosophies.

Perennialism and essentialism are based on the philosophical currents of idealism and realism (Isıcheı, 2006; San Mateo & Tangco, 2003; Sönmez, 2014). According to perennialism and essentialism, what is important in learning-teaching process is the content. Students are passive and receivers of knowledge whereas teachers are active and transmitters of knowledge. Based on these shared properties, perennial and essential philosophies of education are called Traditional Educational Philosophies (TEP) (Orsntein & Hunkins, 2013). Progressivism and reconstructionism, however, are based on pragmatism (Gutek, 1988; Parkerson & Parkerson, 2008). According to both progressivism and reconstructionism, students are at the centre of educational process. It is essential for students to participate in the learning-teaching process actively and the teacher's task in this process is to guide students. Based on these shared properties, progressivism and reconstructionism are labelled as Contemporary Educational Philosophies (CEP) (Ornstein & Hunkins, 2013). This structure suggested by Ornstein and Hunkins (2013) as a classification of educational philosophies was also empirically confirmed by Çetin, Ilhan, and Arslan (2012). Çetin et al. (2012) developed *Philosophical Preference Evaluation Scale* (PPES) so as to determine the educational philosophies prospective teachers adopted, and they found that the scale had a two-factor structure which contained items reflective of perennializm and essentialism (TEP) and items reflective of progressivism and reconstructionism (CEP). In fact, studies related to the understanding of education (Aslanargun, 2007; Aydın, 2006a, 2006b, 2006c; Kırbaşoğlu Kılıç & Bayram, 2014; Şahin, 2004; Uzun, 2012, 2014) indicate that modern and postmodern expressions can be used instead of traditional-contemporary. For example Aydın (2006a), expressed that in modern understanding, the learning is an objective process. In this process, the information is taken from certain sources (teacher, books, encyclopedias), repeated in order to place to mind and keep in memory. In modernism, teacher represents the knowledge and teacher's main task is transfering the objective, common, unchangigng and unconventional knowledge patterns to students. In an educational environment shaped by modern understanding, teachers represent the authority. In the postmodern understanding, there is a point of view opposite to the listed features. Özden (1999) stated that in postmodernism the knowledge is not accepted absolutely. People don't receive the knowledge directly, instead they make sense the knowledge according to themselves. That is to say, in postmodern understanding the precision and absoluteness are rejected. The main issue is the interpretation of knowledge instead of discovering it. So, it is not important that the student memorize and store the information in his mind. The important thing is to work in less, but deep, and to understand the essence of a limited number of subjects. In line with mentioned researches, in this study, used to *Modern Educational Philosophies (MEP) for* perennialism and essentialism; *Postmodern Educational Philosophies (PMEP)* for progressivism and reconstructionism.

Table 1. Educational philosophies

	Functions of education	Teachers' role	Students' role
Traditional philosophies of education	**Perennialism**		
	• Unchanging and universal knowledge/values are taught.[1] • Classics are taught.[1] • Examples are given from ideal life.[1] • Intellectual individuals are raised.[1]	• Teachers are the centre of education.[1] • Teachers are experts trained in liberal (logic, rhetoric and grammar) and physical sciences.[1] • Teachers use deduction methods such as experiments, observations and Socratic discussion.[1]	• Students are of secondary importance.[1] • They should perform what teachers say without objection.[1] • They themselves are responsible for learning.[1]
	Essentialism		
	• Students are raised according to dominant cultural values.[2] • It is made sure that students adjust to the society.[2] • Effort is made so that students internalise the domain of topic.[2]	• Teachers are the representatives of social culture and are models.[2] • Teachers are more active (authoritarian) than students.[2] • Teachers teach students solutions and answers.[2] • Teachers give punishment when necessary.[2] • Teachers do not test the subjects not available in the course book or they have not taught.[2]	• Students are passive.[2] • Students memorise the knowledge they are asked to learn.[2] • Students improve their intelligence/abilities by repeating what the teacher has taught and what is written in the course book.[2] • Hard work and challenge are in the nature of learning.[2]
Contemporary philosophies of education	**Progressivism**		
	• Democratic and social life is developed.[3] • Students are told about the varied nature of concepts and thus they are made to gain a critical perspective of knowledge.[3] • Education should be life.[3]	• Teachers plan learning-teaching process according to students' interests and needs.[3] • Teachers guise students.[3] • Teachers deal with situations which can be encountered in real life.[3] • Teachers create a democratic learning environment.[3] • Teachers use cooperative learning, discovery learning and problem solving methods.[3] • Teachers perform process evaluation.[3]	• Students are at the centre of educational process.[3] • Students are open to changes.[3] • Students work in democratic environments through cooperative learning.[3]

(Continued)

Table 1. (Continued)

Functions of education		Teachers' role	Students' role
Reconstructionism	• They generate policies and programmes to ensure social reforms.[4] • Society is re-structured and it is ensured that real democracy is established in society.[4]	• Teachers are the representatives of changes and.[4] • Teachers create a democratic classroom.[4] • Teachers emphasis practice.[4] • Teachers never give punishment. • Teachers ensure that such social, political and economic problems as racism, hunger, unemployment and environmental pollution are also analysed.[4] • Teachers raise students' awareness of problems threatening humanity.[4] • Teachers use methods such as project-based learning.[4] • Teachers direct students into social reform and social engineering programmes.[4]	• Students participate in educational environments actively.[4] • Students believe that they will re-establish the society.[4] • Students reach a conclusion by discussing on different ideas and theses.[4]

[1](Crookees, 2009; Demirel, 2012; Erden, 1998; Erişen, 2004; Gutek, 1988; Kıncal, 2009; Sönmez, 2014), [2](Başaran, 2007; Kıncal, 2009; Long, 1987; Ornstein & Lewin, 2006; San Mateo & Tangco, 2003; Sönmez, 2014; Strain, 1971), [3](Apps, 1973; Demirel, 2012; Erden, 1998; Ergün, 2009; Lee, 2011; Long, 1987; Ornstein & Hunkins, 2013; Ozmon & Craver, 1995; Toprakçı, 2005), [4](Demirel, 2012; Ergün, 2009; Erişen, 2004; Gutek, 1988; Ischei, 2006; Kneller, 1971; Martin & Loomis, 2007; Oliva, 2009).

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1.3. Multicultural education

Multicultural education is an approach aiming to present students of differing backgrounds (ethnicity, race, religion, language, social class, cultural group) equal opportunities of education (Bennett, 2003). The fundamental purpose of this approach is to regard diversities students' diversities as alternatives in educational sense and to regulate educational-instructional activities in accordance with these diversities. In addition to that, multicultural education focusses on the need for protecting each student's cultural heritage while supporting tolerance for students with differing backgrounds (Gay, 2000; Nieto, 1996).

Multicultural education has strong impacts on the curricula and teaching strategies employed at schools, on relations between teachers, students and parents and on the way the nature of education and teaching at schools is conceptualised (Nieto, 1999). Garcia (2009) defines environments of multicultural education as places strengthening intercultural awareness/consciousness and supporting critical thinking and democratic life styles. According to this definition, learning environments regulated according to multicultural education should be the places which put cultural diversity in the centre of teaching and where students are taught the importance of expressing themselves and accepting the differences in their environment. Teachers should be flexible, sensitive and equalitarian in order to be able to attain this. The reason for this is that it is impossible for education to attain its goals with teachers who have not gained a pluralistic perspective or who do not have intercultural awareness or knowledge even if students are suitable for multicultural education. The importance of teachers' attitudes towards multicultural education is evident at this point.

1.4. Conceptual relations between educational philosophies and attitudes towards multicultural education

Teachers adopting perennialism and essentialism as educational philosophies make efforts for the transmission of unchanging knowledge about universal and national culture, they do not digress from the domain of subject, they do not allow bringing controversial issues into the classroom, they are leaders in the whole of learning-teaching process and they employ traditional methods of teaching (Gutek, 1988; Sönmez, 2014). Teachers believing in progressivism and reconstructionism, on the other hand, (i) are tolerant and flexible to different cultures, they accept that all humans have equal rights and respect them, they have a strong stand against discrimination; (ii) they create democratic environments enabling students to influence each other in the educational process and to state their views freely; (iii) they plan the learning-teaching process by considering students' needs and interests; (iv) they can analyse social, political and economic problems such as racism, social justice and cultural conflicts and they can ensure that students become aware of those problems threatening humanity. It may be said that the objectives of progressivism and reconstructionism are similar to those of multicultural educational paradigm. This means that multicultural education also demands that individuals see themselves from the perspectives of other cultures, that they can recognise themselves better, they can respect other cultures and they gain knowledge and skills about how to behave. Additionally, the goals of multicultural education also include providing all students with the same opportunities for achievement by teaching such concepts as equality, tolerance, cultural differences and so on (Gay, 2000). Hence, it is predicted that adopting postmodern educational philosophies will contribute positively to teachers' perceptions and attitudes in educational environments. That is to say, it is thought that teachers' attitudes towards multicultural education are shaped by educational philosophies they adopt.

1.5. The purpose and significance of the study

This study aims to provide empirical evidence on whether or not there are any correlations between educational philosophies and attitudes towards multicultural education. In line with this purpose, the study questions the correlations between prospective teachers' attitudes towards multicultural education and educational philosophies they adopt.

Teachers develop certain views and beliefs as a result of education they receive even though they are not trained within the framework of a philosophical trend during their pre-service training (Doğanay, 2011). Determining teachers' educational beliefs is important in that those beliefs are influential in their perceptions, their decisions on curricula and on teaching practices and therefore in their behaviours and practices in the classroom (Austin & Reinhardt, 1999; Kagan, 1992; Nespor, 1987; Pajares, 1992). In addition to that, understanding teachers' belief systems is a necessity for improving prospective teachers' teaching in the classroom and for developing their professional preparation (Pajares, 1992; Wilson, 1990). This is because the professional values and ethical principles, tasks and responsibilities in the process of planning, implementing and evaluating teaching are shaped according to educational philosophies they adopt (Silvernail, 1992; Yılmaz et al., 2011). In a similar vein, views and beliefs prospective teachers develop in relation to educational philosophies can also influence their attitudes towards multicultural education. Studies aiming to demonstrate teachers' and prospective teachers' educational philosophies and beliefs are available in the literature (Alkın-Şahin, Tunca, & Ulubey, 2014; Altınkurt, Yılmaz, & Oğuz, 2012; Aslan, 2017; Doğanay, 2011; Doğanay & Sarı, 2003; Koçak et al., 2012; Levitt, 2001; Yapıcı, 2013). There are also several studies analysing prospective teachers' attitudes (Barry & Lechner, 1995; Ekici, 2017; Garmon, 2004; Gezer & Şahin, 2017; Grace & Debra, 2005; King, 2004; Mysore, Lincoln, & Wavering, 2006; Sotıropoulou, 2017) as well as teachers' attitudes (Aktoprak, Yiğit, & Güneyli, 2017; Atiles, Douglas, & Allexsaht-Snider, 2017; Cicchelli & Cho, 2007; Forrest, Lean, & Dunn, 2017; Gürsoy, 2016; Karuppiah & Berthelsen, 2011; Szabo & Anderson, 2009; Turner, 2007) towards multi-cultural education. Yet, no studies aiming to demonstrate the correlations between prospective teachers "educational philosophies and their attitudes towards multicultural education have been encountered in relevant literature. Although information on the existence of correlations between teachers" educational philosophy beliefs and their conception of teaching-learning is available in the literature (Demirel, 2012; Ornstein & Hunkins, 2013; Sönmez, 2014; Wiles & Bondi, 2007), the theoretical information is not based on research. Therefore, it may be stated that this information provides a theoretical framework beyond empirically proven findings.

This study is believed to make contributions to predicting prospective teachers' attitudes towards multicultural education and to understanding the causes underlying their attitudes towards multicultural education setting out from the educational philosophies they adopt. Multicultural education occupies an important place in perspectives in relation to education in the future (Banks, 2006; Parekh, 2006). Increase in variation in todays' societies has caused almost every society to feel the need for multicultural education, and thus multicultural education has become an approach that many societies need to employ. The extent the education system which based on this approach will be successful largely depends on teachers' performance and efforts; because teachers are the people who practice the multicultural education. For this reason, analys-ing the factors which may be determinant for teachers to put the approach into practice effectively is important. Determining the factors influential in multicultural education will help to understand the elements that need to be considered in raising teachers who take cultural differences into account and who organise the educational-instructional process accordingly. In this context, a study analysing the correlations between educational philosophies and attitude towards multi-cultural education is hoped to contribute to the literature. From this viewpoint the following hypotheses will be tested in the study.

(1) There is a negative and significant correlation between modern educational philosophies and attitude towards multicultural education.

(2) There is a positive and significant correlation between postmodern educational philosophies and attitude towards multicultural education.

(3) The educational philosophies adopting prospective teachers are a significant predictor of their attitudes towards multicultural education.

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2. Method

2.1. Research design
This study was conducted by utilizing the relational model. Relational designs are the research designs aiming to determine whether or not there are any correlations between two or more variables and to estimate the probable results (Erkuş, 2012; Tekbıyık, 2014).

2.2. Study group
The study was conducted with 391 prospective teachers attending the Educational Faculty of Dicle University in September 2017. Of the participants 248 (51%) were female whereas 139 (49%) were male students. As to the distribution of the students according to their branch, 171 (44%) of them were students of Social Studies teaching, 136 (35%) were students of pre-school teaching and 82 (21%) were students of science teaching. All of the participants in this study groups has taken the course of *introduction to educational science*. One of the topics in this course is theoretical foundatons of education. In the scope of the theoretical foundatons of education, educational philosophies subtopic is also discussed. Thus it may be said that the participants have a general awareness about the educational philosophies.

Parker (2002) points out that diversity rather than commonality will increase if subcultures increase. This situation is regarded as different cultures in societies having diversity in race, language, ethnicity, belief and so on (Banks & McGee, 2007). Likewise Kaya (2014) stated that the city of Diyarbakir has a very important identity for Turkey, because of on the one hand, it is the centre of different ethnic cultures such as Kurdish, Armenian, Zaza, while on the other hand it is hosted hundreds of thousands of people experiencing forced migration. Performing this research in Diyarbakır may be regarded as evidence that the study group is composed of participants having differences in cultural properties.

2.3. Data collection tools and collecting the data

2.3.1. Philosophical Preference Evaluation Scale
It is considered that a measurement tool which evaluates educational philosophies as two-factor instead of a four-dimensional scale may be more functional because of the difficulty of establishing a definite boundary between perennialism and essentialism of the education philosophies, and also the educational philosophies of progressivism and reconstructionism are high degree of related to each other. For this reason, in the study it was decided to use a scale which has two-factor structure, consisting of TEP dimesion containing the perennialism and essentialism philosophies, and the CEP dimension including progressivism and reconstructionism philosophies. In this context, the two factorial scale developed by Çetin et al. (2012) in the direction of the dimensions mentioned was utilized (see Appendix A).

This scale was prepared in the form of five-pointed Likert type as: absolutely disagree:1 point, disagree: 2 points, indecisive: 3 points, agree: 4 points and absolutely agree: 5 points. Exploratory factor analysis (EFA) was performed so as to attain construct validity of the scale. Having found that the data fitted the factor analysis, analysis was done by using principal components technique. It was found through EFA that the scale had two factors and that it explained 35.68% of the total variance. As a result of EFA it was found that the first factor which reflects the philosophies of progressivism and reconstructionism has 17 items. This factor explained 22.91% of the total variance. The factor loads of the items in this factor ranged between .34 and .76. Factor two, in which 22 items reflective of perennialism and essentialism, on the other hand explained 12.77% of the total variance. The factor loads of the items in this factor ranged between .34 and .69. The items containing the philosophies of perennialism and essentialism were called TEP, and the items containing the philosophies of progressivism and reconstructionism were called CEP by the researchers.

The items "students should be educated according to universal and unchanging truths" and "students should accept the knowledge transferred by the teacher without inquiry" may be given as examples for TEP. On the other hand, the items "educational environment should be democratic" and "the goal of education is to increase liberty" may be given as examples for CEP. The reliability and validity analyses of the scale were done with data coming from 310 prospective teachers attending Atatürk Faculty of Education of Marmara University in 2011–2012 academic year. The reliability for PPES was calculated through internal consistency and split half reliability analyses. It was found to be .90 for the sub-scale of CEP and .86 for the sub-scale of TEP. The reliability coefficients calculated by means of split half analysis were found as .85 for CEP and .84 for TEP. The minimum score receivable from the scale was 39 whereas the maximum score receivable was 195 (Çetin et al., 2012). Cronbach's alpha reliability coefficient calculated for the scale was .83 in PMEP and .75 in MEP in this study.

2.3.2. Attitudes to multicultural education scale (AMES) for prospective teachers

The scale was prepared by Yavuz and Anıl (2010) so as to demonstrate prospective teachers' attitudes towards multicultural education. It is a 28 item, five-pointed Likert type scale and 22 of the items are positive while six items are negative. Item 2 reading "programmes employed in training prospective teachers should assure proficiency in being able to teach students having different cultures" is an example for items reflecting positive attitudes. Item 8 reading "educational activities directed to different cultures destroy social unity" is an example for negative attitudes. The reliability and validity analyses of the scale were done with data collected from 214 students attending the educational faculties of Adıyaman, Hacettepe, Middle East Technical and Gazi Universities. It was found following EFA analysis that the scale had one-factor structure and Cronbach's alpha reliability coefficient was found to be .93. The Cronbach's alpha coefficient calculated in this study, however, was found as .92.

2.4. Procedures

The research data were collected from prospective teachers in 2017–2018 academic year. The scale was administered to the students in the classroom by the researchers. The participants were informed of the purpose of the research prior to giving the measurement tool. It was explained to them that the data to be collected would be used only for research purposes. It was also emphasised that participation was on the basis of volunteering. In order for the data to be valid and reliable, the participants were reminded to give honest and correct answers to the questions in the scale. In part one; demographic information such as gender, age, grade level and department was collected. The PPES and AMES were administered to the participants at the same time. Thus, it became easier to match the data coming from both scales.

2.5. Data analysis

Prior to analysing their data, it is necessary for researchers to question the situations probable to arise so as to minimise the potential problems. Researchers need to test assumptions and necessities for the data set they obtained from the sample in order to be able to perform an analysis. Therefore, researchers' data analysis contains two stages; namely, descriptive statistics and multiple regression analysis through correlation coefficients between variables. Accordingly, lost data analysis was done first and extreme values and normality hypotheses were tested. After that, average standard deviations for the scale and the sub-scales were calculated. After determining whether or not multiple regression analysis met linearity and linearity relation assumptions, it was checked whether there were any linear relations between the predictor variables and the predicted variables.

The first thing to be done in analysing the data prior to multivariate analysis is to evaluate the lost values and their effects because lost data represents lack of information; thus they cause loss of information (Bal, 2003). There are alternative ways of solution in analysing lost data (Çokluk & Kayri, 2011). Several methods such as series mean, average of close points median of close points, linear value estimation, linear curve of a point, list-based deletion, expectation maximisation,

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regression assigning and multiple assigning lost data are used in transforming the sets with lost data into complete data sets. Each of those sets has different impacts. Since lost data affect the results of a study in different ways, appropriate methods should be chosen by taking such factors as sample size and the rate of lost data into consideration (Şahin Kürşat & Nartgün, 2015). When the amount of lost data is great, it is recommended multiple assigning, expectation maximisation or regression assigning method should be used. When the amount of lost data is small, all the methods except for list-based deletion can be used. So, it may be stated that regression assigning is an appropriate method when the lost data is big or small. For this reason, regression assigning method was used in estimating the lost data, and thus assigning was done for 21 lost data.

Following the lost data analysis, extreme values were determined. Extreme values are the extreme values on one variable (univariate extreme value) or the unexpected combination of scores on two or more variables (multivariate extreme value), and they can cause statistical deterioration in interpreting research results. Multidirectional extreme values are determined through a statistical operation known as Mahalanobis distance. In order for a value to be described as multivariate extreme value, a very strict probability estimation such as $p < .01$ for is appropriate for Mahalanobis distance (Tabachnick & Fidell, 2013). The data set was analysed in this study in terms of extreme values by taking these criteria into consideration prior to the analyses. There are two dependent variables in the study: PMEP and MEP. Pearson and Hartley (1958) described critical value for Mahalanobis distance in a study having two continuous variables as 13.82. Mahalanobis distances exceeding this criterion are regarded as extreme value (Pallant, 2005). It was found in this study that two of the Mahalanobis values calculated exceeded the critical value of 13.82. Therefore, the extreme values in question were removed from the data set.

Normality of continuous variables for multivariate analyses is a presupposition made. The supposition of multivariate normality means for variables or linear combinations of variables to have normal distribution (Tabachnick & Fidell, 2013). Skewness and kurtosis values were checked for univariate normality. Normal distribution means having zero for skewness and kurtosis values. Having skewness and kurtosis values in the ±1.0 interval is considered as evidence that distribution does not deviate much from normal. Table 2 shows the skewness and kurtosis coefficients for the variables.

As is clear from Table 2, univariate normality assumption is met. However, this is necessary but inadequate for multivariate normality. There are a number of statistical and graphical methods for multivariate normality. The most frequently used graphical method is having a scatter diagram with elliptical or almost elliptical distribution (Mertler & Vannata, 2005). Multivariate normality was checked by means of scatter diagram through data set used in looking at Mahalanobis distances in this study. Figure 1 shows the scatter diagram matrix for the variables.

Having graphs in the shape of ellipse in scatter diagram matrix means that multivariate normality assumption is met. The procedures for the assumptions on whether or not there are linearity and high correlation coefficients that should be met for multivariate analyses are mentioned in the section of findings. Having met the assumptions for multivariate analysis, the power of educational philosophies to predict the attitudes towards multicultural education is determined through regression analysis (in enter method). SPSS for Windows 20.0 statistical programme was used in the analysis of the research data.

Table 2. The skewness and kurtosis coefficients for the variables		
Variables	**Skewness**	**Kurtosis**
MEP	.047	.861
PMEP	−.666	.547
AMES	−.735	.545

Figure 1. Scatter diagram matrix.
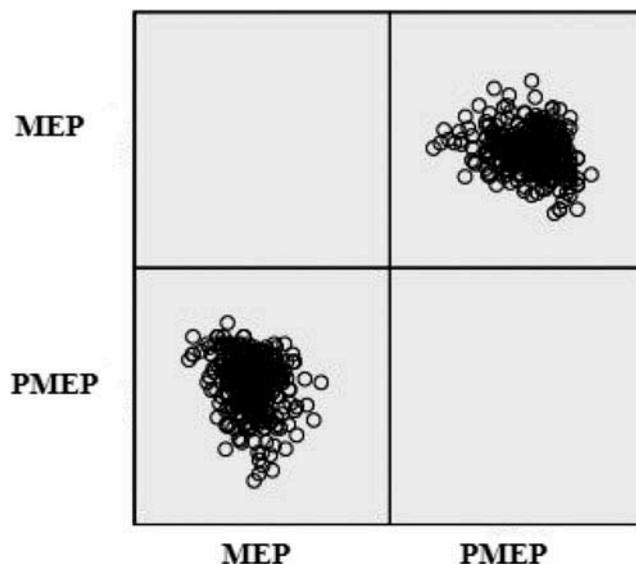
3. Findings

The correlations between educational philosophies and attitudes towards multicultural education were analysed through Pearson's Moments multiplication. The correlation coefficients between educational philosophies and attitudes towards multicultural education, and the descriptive statistics for the variables are shown in Table 3.

According to Table 3, all the correlation coefficients are statistically significant. On examining the correlations, it is clear that there are significant correlations between scores received from the sub-factors of educational philosophies scale and attitudes towards multicultural education. It was found that there were medium level negative and significant correlations [$r0 = −.31$] between modern educational philosophies and attitudes towards multicultural education but high level positive and significant correlations [$r = .61$; $p < .01$] between postmodern educational philosophies and attitudes towards multicultural education.

3.1. Findings for regression analysis

One of the suppositions for regression analysis was that there were linear correlations between predictor variables and predictor variables. An examination of the results for correlation analysis demonstrating the correlations between predictor and predicted variables showed that the correlations between educational philosophies and attitudes towards multicultural education met the assumption.

The other assumption on multiple regression analysis was that there were no high correlation coefficients between predictor variables. The value for high correlation coefficient is 0.90 and

Table 3. Descriptive statistics and correlation coefficients for the variables			
Variables	1	2	3
1. AMES	–		
2. MEP	−.306**	–	
3. PMEP	.614**	−.236**	–
Mean	4.20	2.75	4.19
Standard deviation	5.38	4.51	4.66

**$p < .01$.

above it according to Pallant (2005), .80 and above it according to Büyüköztürk (2010), 0.70 and above it according to Sipahi, Yurtkoru, and Çinko (2010). Correlation coefficients above those values indicate that there may be multiple linear correlations between these variables. Accordingly, the correlation coefficients found between predictor variables may be regarded as evidence that there are no multiple linear correlations between variables.

After evaluating the assumptions for multiple regression analysis, regression analysis was done so as to determine the power of educational philosophies to predict attitudes towards multicultural education. The findings for regression analysis are shown in Table 4.

As is clear from Table 4, regression model created so as to determine the power of educational philosophies to predict attitudes towards multicultural education is significant [$F_{(12.914)} = 131.63$, $p < .01$]. Regression analysis results show that modern educational philosophies and postmodern educational philosophies—which are the sub-factors of educational philosophies—together explain 40% of the attitudes towards multicultural education [$R = .64$, $R^2 = .40$]. The t values for MEP and PMEP were found to be statistically significant [$t = -4.22$, $t = 14.23$, $p < 0.05$, respectively]. Having tolerance values not approaching zero and having high values in general but having VIF (Variance Inflation Factor) values smaller than 10 in regression analysis indicates that there are no multiple linear correlation problems. According to the data shown in Table 4, the tolerance and VIF values calculated for MEP and PMEP are consistent with the accepted values. Therefore, it may be said that the condition of not having multiple linear correlations at this step is satisfied. The regression equation for predicting prospective teachers' attitudes towards multicultural education is as in the following:

$$\text{Attitudes towards multicultural education} = .1.97 + (-20) * (\text{MEP}) + 66 * (\text{PMEP})$$

4. Conclusion

In this study it was concluded that there were negative and statistically significant correlations between prospective teachers' attitudes towards multicultural education and modern educational philosophy beliefs. Namely, the first hypothesis of the study was confirmed. Another finding obtained in this study suggested that there were positive and significant correlations between prospective teachers' attitudes towards multicultural education and their postmodern educational philosophy beliefs. That is to say the second hypothesis of the study was confirmed. It was found in this study that 40% of the attitudes towards multicultural education were explained by educational philosophies adopted by prospective teachers. That is, the last hypothesis of the research was verified.

5. Discussion

Based on the results of the study, it may be said that prospective teachers adopting modern educational philosophy have negative attitudes towards multicultural education. Studies indicating that perennialism and essentialism are correlated with traditional mentality of learning are available in the literature (Aslan, 2018; Baş, 2015; Duman, 2008; Duman & Ulubey, 2008). It is known that teachers adopting the modern educational philosophies of perennialism and essentialism

MODELS	Not standardised coefficients		Standardised coefficients	t	R	R^2	Tol.*	VIF
	β	Std error	Beta					
Constant	.1.97	.26		7.51	.64	.40		
MEP	-.20	.05	-.16	-.4.22			.94	1.06
PMEP	.66	.05	.57	14.23			.94	1.06

Table 4. The power of educational philosophies to predict attitudes towards multicultural education

*Tolerance

focus on subject domains/course books in classes (Demirel, 2012); that they expect students to memorise the content as it is (Brooks & Brooks, 1999; Özden, 2003; Senemoğlu, 2009); that they did not include any of the current social, political, economic, etc. subjects apart from the subject domain in their classes; that they are in the position of leaders in the whole of the teaching process and that they use traditional teaching methods (Sönmez, 2014). Both perennialism and essentialism support traditional teaching mentality due to their characteristics, traditional theories of teaching are also fed by those philosophies and they draw a route for the learning process (Cevizci, 2000; Gutek, 1988; Phillips, 2003). From the traditional perspectives the goal of education is to get students to accept the dominant ideologies, directives and applications without questioning, but the basic goal of multicultural education is to train students for societal critical thinking and societal change and support the development of their decision-making capabilities. Multicultural education involves getting students to make a decision on important social issues and encourage initiative taking in students, societal change and democratic values (Banks, 2004). Thus, interpretation may be made that it is an expected situation for teachers with mentality of traditional learning to adopt modern educational philosophies and to have negative attitudes towards contemporary approaches of education such as multicultural education.

Verification of the second hypothesis of the research means that prospective teachers' educational philosophy beliefs labelled as postmodern (progressivism and reconstructionism) are parallel to the paradigm of multicultural education which is also a contemporary approach of education. Such properties of progressivism and reconstructionism as providing students with a more democratic environment of education and learning content, teacher as the guide and students as the configurers of knowledge, instilling in students free decision-making and social participation skills and attaching importance to cooperative learning indicate that educators who adopt this philosophy will take the fundamental principles of multicultural education paradigm into consideration in organising the process of learning. In other words, students in the classroom of teachers who adopt postmodern educational philosophies are in the centre of teaching (Gay, 2010), and those teachers help students to understand their individual background and the cultural heritage coming from their family and to represent it, they try to increase justice and equality, they prepare appropriate environments to discuss social, political, economic and ethnical problems (Gay, 2010), they approach the same problems with different perspectives to reach a conclusion and make efforts to develop students' problem solving skills (Ameny-Dixon, 2004), and they assure that students display all their potential regardless of their cultural differences (Kaya & Aydın, 2014). Aydın (2006c) emphasized that postmodernist education philosophies have an understanding that supports pluralism and multiculturalism. Besides he said that the multiplication of diversity and the promotion of multiculturalism are the most fundamental demands of postmodernist thinking. Similarly, Nicholson (1995) expressed that in postmodern understanding argue that all students should be equipped with information about cultures outside their own culture, not only tolerance of sexual, racial, class and ethnic differences in their own societies but also emphasize that they should not value them. In this sense it can be said that the ideal of multicultural education does not coincide with the understanding of modern education. In addition to, in postmodern understanding the multicultural and democratic education is advocated as a basic philosophy (Kanpol, 1995) and such an understanding it is hoped that common feelings, dialogue and interpersonal communication will connect people together. From this aspect, postmodern education has criticized the understanding of standard and homogeneous education, instead of adopting the general principles applicable to everyone, bring to the fore a philosophy which flexible and uninterpretable, able to address individual needs, expectations and value systems (Şişman, 1998). The finding that prospective teachers adopting postmodern educational philosophies develop positive attitudes towards multicultural education is in parallel to the one obtained in the literature.

Finally, disclosure of 40% of the variance related to the attitudes towards multicultural education by the educational philosophies means that 60% of the variance for attitudes towards multicultural

education can be explained by the other variables. On reviewing the studies trying to determine the variables influencing attitudes towards multicultural education, it was found that the variables were epistemological beliefs (Türkan, Aydın, & Üner, 2016); cultural intelligence (Gezer & Şahin, 2017; Koçak & Özdemir, 2015); self-efficacy (Başarır, 2012; Demir & Başarır, 2013); democratic attitudes (Bulut & Başbay, 2015); attitudes towards education of gifted children (Tortop, 2014); thinking styles (Kaf Hasırcı & Gözük, 2012) and critical thinking (Akar, 2017). Studies analysing the effects of all variables on attitudes towards multicultural education are needed in determining the correlations between the above mentioned variables and in determining the extent to which the attitudes towards multicultural education is explained by those variables. It is believed that a model explaining the great portion of the total variance for the attitudes towards multicultural education could be put forward in such studies which are to meet the need. Suggesting a regression model explaining a great amount of the variable of attitudes towards multicultural education can shed light on studies trying to develop positive attitudes towards multicultural education.

6. Implications

When the research conclusions are taken into consideration, it is recommended that the course "Educational Philosophies" which was taught in educational faculties in the past and which is no longer taught-should be included to the curriculum of education faculties again. It is believed that prospective teachers will integrate more consistently their personal philosophies of education with educational philosophies on which Turkish National Education is based and that they will reflect this in their own experience of teaching in the classroom in a more healthy way. It is also recommended that programme development experts prepare student-centred curricula containing the materials, activities, subjects and concepts reflecting the experiences of ethic, gender and cultural groups in order to raise teachers having postmodern educational philosophies. In addition to that, it should be made sure that teacher training programmes include factors such as intercultural interaction and clarity in intercultural learning, increasing willingness to use multiculturalism and seeing cultural differences as a source of learning. Such an experience is expected to contribute to a development in prospective teachers' educational philosophies from modern to postmodern. These experiences will help prospective teachers to adopt postmodern educational philosophies which will enable them to be flexible and sensitive to cultural differences and to organise the process of teaching accordingly when they are appointed as teachers. These differences do not cause conflicts in the classroom, students with cultural differences can develop their abilities to the maximum, classroom environments suitable to multicultural education can be created and practice is made only if prospective teachers adopt postmodern educational philosophies before they are appointed as teachers.

7. Limitations and suggestions

Because this study was conducted with prospective teachers, we suggest that the correlations between educational philosophies and attitudes towards multicultural education be analysed in terms of teachers. In this way, the results obtained for prospective teachers can be compared with those obtained for teachers. Finally, the data were collected in quantitative methods in this study; therefore, a similar study could be performed in qualitative method (through observations and interviews) and they could be used in interpreting the qualitative data. Thus, prospective teachers' views on educational philosophies could be determined in more depth and in more detail.

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Appendix A. Philosophy preference assessment scale[1]	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The center of education is students.					
2. Learning takes place through experiences.					
3. It is essential that students should learn to learn, not just knowledge.					
4. Correct knowledge may change depending on conditions, environment, people, and time.					
5. The role of a teacher is to guide the learning/teaching process.					
6. Students should be active in the educational process.					
7. Discovery and inquiry teaching strategies should be used in the process					
8. Education is life itself.					
9. The educational environment should be democratic.					
10. The curriculum should include situations that one is likely to encounter in real life					
11. The learning/teaching process should include cooperative learning.					
12. The educational environment should focus on practices.					
13. Education is an important tool for social reform.					
14. It is schools that are mainly responsible for changing a society,					
15. Teachers should be representatives of change.					
16. The objective of education should be to teach such values as cooperation and democratic life.					
17. The objective of education is to improve liberties.					
18. Students should be educated in accordance with truth which is eternal.					
19. Teachers should be the sole authority in the classroom.					
20. Education is a preparation for life.					
21. Teachers should teach students fundamental cultural values.					
22. Classics should be included in the curriculum.					
23. It is not necessary to take individual differences into account in the educational process.					
24. Students should be enabled to get to gospel truth through reasoning.					
25. Students should imitate their teachers.					
26. Life is different from the school.					
27. The role of education is to teach students subjects and knowledge that do not change from past to present.					

(Continued)

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Appendix A. (*Continued*)	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
28. Phenomena and subjects that are not agreed upon (i.e., open to discussion) should not be brought into the classroom.					
29. Knowledge through deduction is gospel truth.					
30. In the educational process, students should take what their teachers teach as gospel truth.					
31. It is possible to resort to punishment to achieve desired results in the educational process.					
32. Expository teaching approach should be used in the educational process.					
33. School is not a place for reform.					
34. By its very nature, learning involves coercion and strict disciplinary rules.					
35. The role of a teacher in the classroom is to convey knowledge.					
36. The essence of the educational process is excellent internalization of subject focus.					
37. Human mind is inherently empty; all information can be learned later.					
38. Teachers teach what is correct; students must provide these correct answers in examinations.					
39. Students do not know what is good for them.					

[1]The first 17 items of the scale reflects modern educational philosophies; the 18–39 items of the scale reflects postmodern educational philosophies.

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