

*Full Length Research Paper*

# Development of democratic teacher behavior scale (DTBS)

Gülşen Özcan

Abant İzzet Baysal Üniversitesi, Bolu, Turkey.

Received 17 November, 2015; Accepted 11 February, 2016

**This study aims to develop an instrument that could be used to measure democratic teacher behavior in a valid and reliable manner. The research was carried out in fall semester 2014 to 2015 with a total of 500 high school students recruited from four different schools. Expert opinions were obtained to determine the scale's content validity and face validity. Additionally, exploratory factor analysis and confirmatory factor analysis were performed to assess the construct validity of the scale's measures. Confirmatory factor analysis yielded a construct that is consisted of 17 items and three factors that explained 46,85% of the total variance. These factors were: participation, curriculum and Relations. Findings obtained from confirmatory factor analysis demonstrated that the construct with 17 items and three factors had adequate fit indexes. The reliability of the measures obtained using the three subscales were examined via cronbach alpha, which produced reliability coefficients that fell within acceptable limits. Based on the research results, it can be stated that the scale is an instrument that produces valid and reliable measures, and that can be used to determine democratic behavior of teachers. Suggestions for future scale development efforts on democratic teacher behavior are outlined.**

**Key words:** Democratic teacher, democratic education, behavior, scale, high school.

## INTRODUCTION

Given the recent social, political and technological improvements in the world, geographical borders have almost lost their importance. Hence, people can change their location easily, communicate with other people across the globe as well as share the distinct culture globally in pluralistic societies, which make democratic education even more significant.

To date, the notion of democracy and democratic education have been documented as universally crucial factors encompassing the values such as freedom,

equality, justice, respect, tolerance, reconciliation, and becoming rational (Doğan, 2005; Morrison, 2008; Subba, 2014; Tannebaum, 2015). Dobozy (2007) defines democratic education as a medium where students are treated equally regardless of their social background. This medium is based on the notion that people are equal in terms of value and that they should be treated equally by law and justice. In this regard, equality in education is not only to provide people to attend schools with the equal chance but to provide them with equal opportunity; to

E-mail: [guloz69@hotmail.com](mailto:guloz69@hotmail.com).

Authors agree that this article remain permanently open access under the terms of the [Creative Commons Attribution License 4.0 International License](https://creativecommons.org/licenses/by/4.0/)

enable them to improve their skills and to contribute to their accomplishments with the allowance of equal chance. Furthermore, Morrison (2009) emphasizes that democratic education can be provided by inner-class practices in the micro level, and by the practices in the school in the macro level. Similarly, Ritter (2010) remarks that teaching others how to teach democratic citizenship represents a process as teachers are the ultimate instruments of change.

Researchers in this field dealt with the aim of democratic education from a range of perspectives. They classify the aim in two main categories: the one that serves individual development and the one that serves social development. In this sense, the aims such as developing personal responsibility (Beane, 2005; Parker, 2003), developing the ability to solve problems (Barber, 1998; Goodlad, 2002), developing critical thinking, developing self respect and self control (Knight, 2001; Mac Math, 2008) fall in the first category. On the other hand, the latter category includes the aims such as developing social responsibility, developing the habit of working together (Vinterek, 2010), the participation in decision making, questioning, developing empathy (Aktan and Vural, 2003; Karakütük, 2001), respecting others' opinions, religious belief and gender or spouse preferences (Kubow and Kinney, 2000; Lappé, 2006; White et al., 2007).

Democratic medium in a class is an important aspect affecting human behavior. The medium in a classroom does not only provide the student accomplishment but also enables students to improve their democratic attitude toward others. The teachers who create a fair, tolerant and flexible classroom setting and utilize the instructional variables such as feedback, correction, reinforce and clue effectively can perform the sort of positive class setting. In such a setting, students can perform the tasks given at a desired level and they can carry on focusing on the subject matter throughout the course (Trent et al., 2010). In this vein, democratic medium and the visions of democratic teacher have interacting roles in students' conceptions of democratic behavior. Yeşil (2003) highlights seven significance in democratic education as follows:

1. Physical dimension
2. Knowledge dimension
3. Decision dimension
4. Freedom of expression dimension
5. Freedom of participation dimension
6. Social relations dimension
7. Responsibility dimension

Yeşil (2003) explains each component in detail and he points out that "physical" component refers to the medium of education that enables students to improve their skills. "Knowledge" component refers to the preconception of students' rights, freedom, their responsibility as well as

the outcome of their performances. As the third component, "decision" means the presence of the rules to follow in a classroom practice and the acceptance of the underlined rules by the whole students. The researcher divides freedom into two as freedom of expression and freedom of participation. While "freedom of expression" means that students should be able to express themselves based on the norms accepted by human rights, "freedom of participation" means students' active participation throughout the classroom practice in the process of decision making. Occupying the sixth dimension "social relations" is the dimension through which the importance of values such as respect to human rights, justice, co operation, responsibility in teacher-student as well as student to student relations is emphasized it is also underlined that interaction in a democratic education medium should be pursued within the framework of democratic rules. "Responsibility", the seventh dimension, refers to the responsibilities inherent in freedom and also the balance of freedom and discipline. When we consider all the dimensions outlined above, it is obvious that the responsibility to foster democratic behavior falls upon educators.

Researchers have advanced our understanding about democratic education by classifying a democratic classroom setting into four main components being realized in education programs. The first component, "participation", refers to take part in decision making on the issues related to them in a society (Dewey, 1970/2010a; Gutmann, 1999; Kubow and Kiney, 2000; Print et al., 2002; Rainer and Guyton, 1999; Riley, 2011). The second component, "curriculum", covers the participation of the students into the classroom rules and predetermined decisions given in a class. Students reflect their opinions both in evaluating and determining the aim of the course, selecting the content, method, technique to be focused (Arabacı, 2005; Girgin and Gürşimşek, 2004; Morrison, 2009; Print et al., 2002; Riley, 2011). The third component is "relationships" (Arabacı, 2005; Gimbert, 2002; Kubow and Kinney, 2000; Mac Math, 2008). The fourth component, "teacher", refers to the person who undertakes the crucial responsibility in acquiring democratic behavior in a class setting (Print et al., 2002; Mac Math, 2008; Riley, 2011).

The key responsibility for creating a democratic education environment at classroom level certainly belongs to teachers. Democracy should be an integral part of teachers' instruction in a classroom setting. Hence, they should act in line with a democratic ideology, and constitute a role model to the students through their model role of democratic behavior (Subba, 2014). A democratically minded teacher should give equal chance to students in determining the rules in a class. In other words, students' equitable access in forming the shared norms in education is of great importance (Darling-Hammond, 2006; Hostetler, 2012). What is more, the teachers should be able to inform and get the students

the acquire knowledge pertaining the reasons or contributions of behavior rather than punishing or rewarding them. As a democratic leader, a teacher should motivate students, getting them to participate in the process of active learning, and they should be able to present the variety of activities to students, getting their opinions during the practice of teaching (Başar, 2004; Parker, 2010).

In literature, there have been studies on developing scales to measure teachers' democratic behavior. For example, Shechtman (2002) developed a scale "Teachers' Democratic Belief" to obtain their democratic beliefs. The scale is composed of 34 items and three factors named freedom, equality and justice. Cronbach alpha measures of the subscales are in the range of .63 to .66. Dealing with the teacher- student relations in a classroom setting, Drugli and Hjemdal (2013) developed a scale called "Factor Structure of Student-Teacher Relationship Scale", yielding three subscales as closeness, conflict and dependency. The scholars, Readdy et al. (2013) developed a scale of classroom strategies consisting of four subscales names as student focused on learning and engagement, instructional delivery, promoting student thinking, and academic performance feedback. Reliability of the scale is reported to be 0.92. On the other hand, Kan (2013) conducted a study at a secondary school and developed "Scale of Equal Behavior In A Class".

The study found four subscales as emphasizing equity in a class, equity toward individual differences, establishing self confidence, objective behavior. The measure's Cronbach alpha coefficient was found to be 0.94. In another on teachers' democratic behavior, Gözütok (1995) adapted the scale into Turkish developed by Schwartz (1992). It was found out that the measure of Cronbach alpha coefficient was 0.87. The scale administered to the students using 5- point Likert type grading is composed of 50 items. Similarly, Korkmaz and Gümüşeli (2013) developed "Scale of Medium of Democratic Education" for primary, secondary and high school teachers. The scale is composed of 75 items and three subscales labelled as decision-making, curriculum instruction and teacher-relations. The measure of the scales' Cronbach alpha coefficient was found to be 0.94. Dealing with democratic values, Çermik (2013) developed "Scale of Democratic Values" composed of 17 items and four subscales as checking right for instances, respect to differences, justice and equity. The scale was administered to pre service teachers, yielded the measure of Cronbach alpha coefficient as 0.84. Kiroğlu et al. (2012) developed a scale of "in class tolerance" that was administered to instructors at a university. The scale was composed of 13 items and three subscales, the measure of Cronbach alpha was found to be 0.74. Yeşil (2010) developed a scale named "Determination of a Democratic Teacher Behavior" which was administered to secondary school teachers. The scale is composed of one subscale and 69 items, the measure of Cronbach's alpha was

found to be .98.

Apart from the scale development studies, there have been some other studies regarding democratic teacher and their behavior. Studies were conducted in the form of surveys, open ended questions as well as the studies where the scales are utilized (Bayındır et al., 2010; Cavkaytar, 2013; Dündar, 2013; Genç, 2006; Gömleksiz ve Çetintaş, 2011; Güven, Kaya and Aslan, 2014; Kayabaşı, 2011; Karatekin et al., 2013; Topkaya and Yavuz, 2011; Yiğit and Çolak, 2011).

To the best of the study knowledge, there have been succinct studies dealing with democrat teachers in a classroom setting. The purpose of this study is to develop a valid and reliable scale that could be used to measure "Democrat Teacher Behavior" (DTB). The study aim to contribute to student centered evaluations of teachers and facilitate democratic practice of instruction by empowering teachers. Additionally, it will contribute to the understanding of teacher profiles in relation to democratic behavior in Turkey.

## METHODOLOGY

### Participants

The present study was administered to a total of 500 students from two different state schools selected by random sampling method, located in Bolu, in Turkey, in the fall semester of the 2014 TO 2015 academic year. 400 students formed the first test group. Exploratory factor Analysis (EFA) was performed on scale items based on the students' answers. In order to verify structure validity of the 20-item scale, the scale items were given to another group of students consisting of 100 high school students for the second test group. Confirmatory factor Analysis (CFA) was conducted on the scale administered. A total of 18,675 students attended high schools in Bolu during the 2014 to 2015 academic year (8,816 female, 9,859 male) www.meb.gov.tr. Regarding the number of participants that should be included in factor analysis studies, Yazıcıoğlu and Erdoğan (2004) states that when the sampling ratio of the population is about 10.000 to 25.000, and that it is in the range of sampling error of 0.05, 270 to 280 participants could be acceptable. On the basis of meeting the criteria, it can be acceptable to recruit a total of 500 students, which make up the sampling of this study. The distribution of students both in the first test and the second test application of the scale are shown in Table 1. As seen in Table 1, there were 87 girls (36.4%) and 61 boys (38.4%) in the first school, 71 girls (29,7%) and 46 boys (28,9%) in the second school, and 81 girls (33,9%) and 52 boys (32,7%) in the third school. CFA was conducted in the fourth school for which 41 girls (41%) and 59 males (59%) participated.

### Developing items of the scale

Initially, literature in this field was reviewed to form the items that would take place in the scale. Based on the review, democratic teacher behavior was summarized under the headings of democratic school, democratic class setting and dimensions (Dewey, 1970/2010a; Hostetler, 2012; Kubow and Kiney, 2000; Print et al., 2002), democratic belief and democratic attitude (Korkmaz and Gümüşeli, 2013; Selvi, 2006; Subba, 2014; Yeşil, 2010). While writing the items of the scale, key concepts related to democratic teacher behavior were verbalized. Furthermore, 28 high

**Table 1.** Study group

	First test group			Second test group		
	I. School	II.School	III.School	Total	IV. School	
Gender	Female	87	71	81	239	41
		36.4%	29.7%	33.9%	100.0%	41%
	Males	61	46	52	159	59
		38.4%	28.9%	32.7%	100.0%	59%
Total		148	117	135	400	100
		37.0%	29.3%	33.8%	100.0%	100%

school students, representing the group for scale application, were requested to answer an open ended question "how should a democratic teacher treat the class?" The answers obtained from those students gave insights on developing the items of the scale. The students' answers were combined with the data in literature, and a pool of items was established, consisting of 40 items. In order to obtain the content validity and face validity, five experts' opinions at the university level were obtained: one from the field of democracy and human rights, three experts from program development and another expert in the field of program evaluation. On evaluating the feedback provided by the experts, the scale that initially was composed of 40 items was reduced to 30 items, and the final form of the scale was obtained for the test application. For the items in the scale, a 4-point Likert-type scale was used: None of them behaves so (1), Some of them behave so (2), Most of them behave so (3), All of them behave so (4).

### Exploratory factor analysis and findings

Factor analysis is a statistical analysis method to summarize data so that patterns and relationships can be interpreted. This method is used to regroup variables into limited set of clusters based on shared variance. Thus, it helps to isolate constructs and concepts. Factor analysis utilizes mathematical procedures in simplifying interrelated measures to enhance patterns in a set of variables (Bartholomew et al., 2011; Child, 2006). There are different opinions regarding the number of the participants that should be included in factor analysis studies. Comrey and Lee (1992) suggest that 100 participants is an insufficient number, 200 is mediocre, 300 is good, 500 is very good, and 1000 is perfect (Akbulut, 2010). On the other hand, Kline (1994) argues that 200 is generally satisfactory to obtain reliable results from the factor analysis, but in cases where the factor structure is clear and small, this can be reduced to 100; however, working with large samples is more appropriate. In estimates of appropriate sample sizes for use in factor analysis, meeting at least two of the criteria available in the literature is recommended (Cokluk et al., 2012).

Cattell (1978) suggests in his factor analysis studies that the participants as many as 3 to 6 folds of the number of items in the scale should be included in the study group, and characterizes that 200 participants is acceptable for factor analysis. Hair et al. (1979) find it sufficient that the participants as many as 20 folds of the number of items in the scale are included in the study group. In the present study, 400 participants for the first study group were recruited for the EFA. According to criteria given earlier, it can be stated that the number of participants in this study is sufficient for factor analysis. Another operation that needs to be performed for the same purpose is the examination of the Kaiser- Meyer- Olkin (KMO) value as well as Bartlett's test. The data are deemed suitable for factor analysis when KMO values are above 0.60., and when Bartlett's test is statistically significant (Buyukozturk, 2013). A factor

**Table 2.** KMO and Bartlett Test

<b>KMO</b>	<b>0.88</b>
Bartlett's Test of Sphericity	2443.631
Df	435
Sig.	0.000

load value of 0.45 or higher -an important value in factor analysis- is acceptable value for the selection. However, this value could be decreased until the level of 0.30 in application for low number of items (Büyükoztürk, 2013).

In the present study, as a result of the first analysis based on EFA, the items whose factor load values were over 0.40 were included in the scale. In addition, the items whose values were close to one another in two factors were excluded from the scale. Therefore, 20 items remained in the scale. The 20 scale items were included in factor analysis again by using varimax changing technique, which is a vertical changing technique. Varimax and Quartimax, which are vertical changing techniques, are used in social sciences in scale development generally (Büyükoztürk, 2013).

As shown in Table 2, the KMO value is 0.88. This value is quite higher than 0.60 limit value which is found appropriate for the KMO value. This indicates that the research data are appropriate for factor analysis. According to Bartlett test result,  $p=0.000<0.05$ . This value is a significant value for 0.05 of significance level.

### Determination of the themes in the scale

According to the result of EFA test conducted based on KMO and Bartlett test, a 20-item structure was obtained along with three factors. By examining the contents of these items and by considering the literature on democratic teacher behavior, factor names were decided. The factor loads and factor common variances of the items that were obtained in the fundamental components analysis are shown in Table 3 and Figure 1.

As seen in Table 3, the scale about the 20 questions is made of three factors. There are 10 items in the sub factor, 6 items in the second sub factor, and 4 items in the third sub factor. The factor loads of the items in the participation sub factor are between 0.43 and 0.70. Factor common variance varies between 0.23 to 0.55. The factor load values of the items in the program factor are between 0.42 to 0.72. Factor common variance changes between 0.43 to 0.56. The first of the three factors in the scale explains 21.45% of the total variance about the scale, and the second factor explains 13.06% and the third factor explains 12.33%. The total variance explained by the three factors is 46.85%. The

**Table 3.** Factor analysis results of democratic teacher behavior scale (DTBS).

Items	Factor common variance	Factor load
<b>Participation</b>		
They consider the needs of the students when planning their lessons	0.55	0.69
They direct them to be tolerant to different opinions in their classes	0.55	0.70
They determine class rules together with their students	0.33	0.53
They give an opportunity to their students in their classes to express themselves clearly	0.23	0.43
They are open to criticism about themselves and their classes	0.53	0.56
They care for us to make critical and logical comments in their classes	0.50	0.43
They care that we study in collaboration when studying class subjects.	0.41	0.45
They give the right to defend themselves to the students who violate class rules	0.28	0.47
They are careful to give equal right to speak in class to everyone	0.48	0.49
They give an opportunity to recognize different sides of ours by inner class activities.	0.36	0.52
<b>Curriculum</b>		
They treat students better or worse according to success level of the students	0.54	0.72
They are more understanding towards students they have sympathy with	0.52	0.68
They divide students into groups according to their success levels	0.48	0.65
They ignore mistakes of successful students	0.58	0.61
They are prodigious in many matters against students	0.51	0.59
They discriminate against girls and boys as teaching a lesson	0.55	0.42
<b>Relations</b>		
They are respectful to our ethnic culture	0.56	0.71
When we act in class reflecting our believes, they don't offend us	0.50	0.65
They are objective when they grade students who have unfavorable behavior in class.	0.43	0.63
They are respectful about matters that we are personally sensitive to	0.50	0.58

common variances of the three factors defined about the items change between 0.23 to 0.58.

### Confirmatory factor analysis and findings

CFA was applied to assess whether the second group's data would justify the EFA results obtained from 20 items and three factors. It was observed that the conformity indexes of the scale reached the acceptable values when the first and ninth item in the participation factor and the second item in the program factor were excluded. The road scheme shows the loads of each item in the three factors by the standardized solution. There are eight items in the participation factor, and item load values change between 0.36 to 0.72, and there are five items in the program factor and their item load values change between 0.51 to 0.64, and in the relationships factor there are four items the load values of which change between 0.57 to 0.77. In addition, it is observed that t values of the items change between 3.52 to 6.90. t values greater than 2.56 show that t values are significant at the level of 0.01 level (Jöreskog and Sörbom, 1996). In CFA, testing of a hypothesis or theory is performed to assess the relationship between the variables (Büyükoztürk, 2013).

Fit indexes of the model obtained were examined in CFA performed, and it was observed that DTBS's fit index values were as follows:  $\chi^2/sd = 1.137$ , GFI= 0.86, CFI= 0.98, RMSEA= 0.044, p=0.08, AGFI=0.81, NFI=0.91, NNFI=98, IFI=0.98, PNFI=0.79 and

PGFI= 0.65, RMR=0.06. As shown in Table 4, CFA results range from perfect fit to acceptable fit. Table 4 demonstrates the acceptable and perfect fit values, which were examined in order to test the adequacy of the model; also shown are the fit index values obtained from the CFA, as well as the relevant results. The criteria used for acceptable and perfect fit indicate that the model with three factors obtained from the CFA fits (as shown in Table 4). (Byrne, 2001; Hooper, Coughlan and Mullen, 2008; Kline, 2011; Schermelleh-Engel and Moosbrugger, 2003; Sümer, 2000). Table 5 shows that the correlation values between the factors change between -0.450 to 0.757. Pearson Correlation coefficient (r) between 0.00 to 0.25, there is a very weak relationship between the factors, a weak relationship between 0.26 to 0.49, moderate relationship between 0.50 to 0.69, a high relationship between 0.70 to 0.80, and a very high level of relationship between 0.90 to 1.00 (Kalaycı, 2005). There is moderate relationship between the factors according to this table.

### Reliability of the measurement instrument

Another characteristic that needs to be present in a measurement tool is the reliability coefficient showing the consistency of the measurement tool. Cronbach alpha reliability coefficient of 20 items was as a result of the second application being 0.85 in the participation factor, 0.78 in the program factor, and 0.85 in the relationships factor and 0.68 in total. On the basis of the results revealed, it can be stated that the scale is reliable.

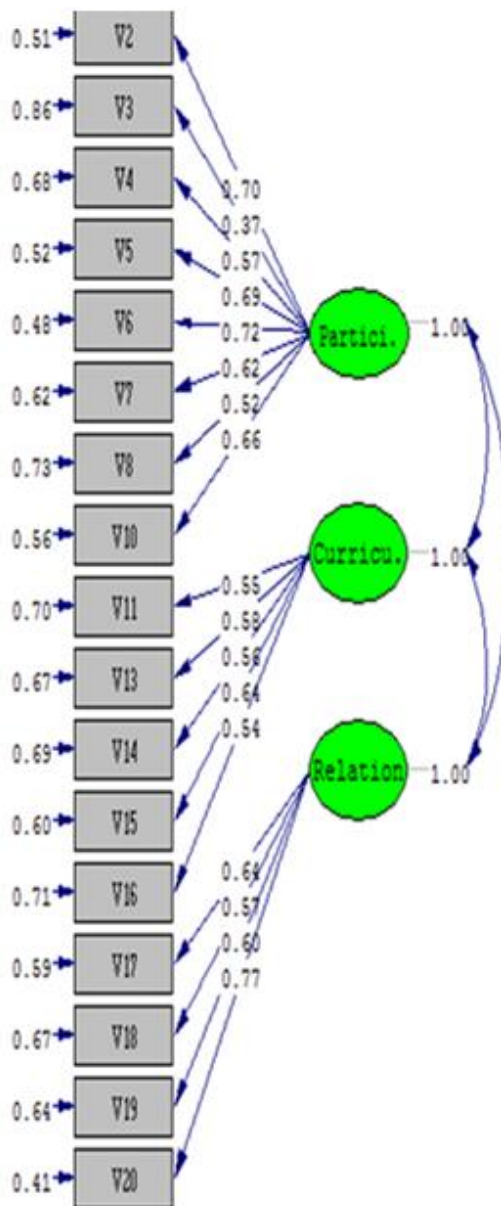


Figure 1. Confirmatory factor analysis results for DTBS

Table 4. Confirmatory indexes and confirmatory criteria obtained from confirmatory factor analysis (CFA).

Fit indexes	Perfect fit	Acceptable fit	Obtained index	Result
$\chi^2/sd$	$0 \leq \chi^2/sd \leq 2$	$2 \leq \chi^2/sd \leq 3$	1.37	Perfect fit
GFI	$0.95 \leq GFI \leq 1.00$	$0.90 \leq GFI \leq .95$	0.86	Acceptable fit
AGFI	$0.90 \leq AGFI \leq 1.00$	$0.85 \leq AGFI \leq .90$	0.81	Acceptable fit
CFI	$0.95 \leq CFI \leq 1.00$	$0.90 \leq CFI \leq .95$	0.98	Perfect fit
NFI	$0.95 \leq NFI \leq 1.00$	$0.90 \leq NFI \leq .95$	0.91	Acceptable fit
NNFI	$0.95 \leq NNFI \leq 1.00$	$0.90 \leq NNFI \leq .95$	0.98	Perfect fit
IFI	$0.95 \leq IFI \leq 1.00$	$0.90 \leq IFI \leq .95$	0.98	Perfect fit
RMSEA	$0.00 \leq RMSEA \leq .05$	$0.05 \leq RMSEA \leq .08$	0.044	Perfect fit
PNFI	$0.95 \leq PNFI \leq 1.00$	$0.50 \leq PNFI \leq .95$	0.79	Acceptable fit
PGFI	$0.95 \leq PGFI \leq 1.00$	$0.50 \leq PGFI \leq .95$	0.65	Acceptable fit

**Table 5.** Mean, standard deviation and correlation values of the subscales.

Sub factors	Participation	Curriculum	Relations
Participation	1.00	-.577**	0.757**
Curriculum	0.577**	1.00	0.450**
Relations	0.757**	0.450**	1.00
M	23.87	12,48	10,76
SD.	6.47	4,12	3,17

\* $p < 0.05$ , \*\* $p < 0.01$  N=100.

## RESULTS

This study aimed to develop a scale to measure democratic behavior levels of high school teachers. EFA and CFA were conducted to measure the construct validity of the scale. CFA yielded a construct that consisted of 17 items and three factors that explained 46, 85% of the total variance. These factors were named as "participation", "curriculum" and "relations". Fit indexes of the model obtained were examined in CFA performed, and it was observed that DTBS's fit index values were as follows: CIMIN/DF, 1.147, GFI; 0.87, CFI; 0.97, RMSEA; 0.039'. Cronbach Alpha coefficient of the scale with its final form was 0.85 in the participation factor, 0.78 in the program factor 0.85 in the relationship factor and 0.68 as a total.

These results are in the range of 0.60 to 0.80, which is aligned with Alpar's (2001) statement of quite reliable. On the basis of the results, it can be stated that quartet likert type scale that was developed has the validity and reliability to measure democratic behavior of teachers serving in high schools in Turkey.

## DISCUSSION AND CONCLUSION

This study aimed to develop a scale to measure teacher behavior in relation to their being democratic. Teachers who have not adapted democratic behavior style cannot be expected to raise democratic students. A number of reserachers emphasized that teacher behavior has an important impact on students (Jeans, 1995; Wenglinsky, 2000) yet, no studies were found scrutinizing democratic behavior of teachers based on student evaluations. Aydoğan and Kukul (2003) argued that elementary and secondary school teachers referred to students' opinions at an "intermediary" level in the selection of lessons taught in the classroom and target, content, method and tools of other activities. They remarked that elementary school teachers were more democratic for considering the opinions and suggestions of the students who were minority in the classroom in terms of thought.

Duman and Koç (2004) pointed out that the democratic behavior was quite moderate or in poor level. Angell (1998) stated that the students' understanding of expressed opinion about the democratic teacher behavior

reflected the key entities such as information sharing, respect, creating opportunity for the development of skills, empathy, and being equal and fair. Pohan (2003) in a similar study, asserted that characteristics such as making a decision based on participation, liberal approach, and sensitivity to sociological phenomena are the attributes of a democratic teacher. Pryor and Pryor (2005) concluded in their research that acceptance of differences, creation of safety feeling, honesty, ethic norms, and equal and fair act were the foundation of democratic teacher behavior. Saraçoğlu et al. (2004) emphasized that although the instructors agreed on democracy principles, they were not able to reflect these principles in class, which indicates that further studies of democratic teacher behavior is called for.

In the present study, democratic behaviors of teachers based on student perception were questioned and it is thought that the study will contribute to the field as teachers should adopt democratic behavior in the context of education and pursue the attitude for the future generations. Furthermore, evaluation of teacher behavior by students seems to be worthwhile as a part of its democratic nature inherent within itself. Additionally, secondary school teachers' employing democratic behavior in Turkish context will add to the growing body of literature and shed light on developing better democrat behavior of teachers in diverse societies.

As it is the case in many studies, this study had some limitations. Because the scale was conducted with the students in four secondary schools in a city of Turkey, it may not be generalized to all cities in the country. Therefore, further studies with greater number of sample including several other regions and cities in the country are suggested so as to increase the scale's external validity.

## Conflict of Interests

The author has not declared any conflicts of interest.

## REFERENCES

- Alpar's R (2001). Spor bilimlerinde uygulamalı istatistik. Ankara: Nobel Yayın Dağıtım.  
Akbulut Y (2010). SPSS applications in social studies. İstanbul: İdeal Publishing.

- Angell AV (1998). Practicing democracy at school: A qualitative analysis of an elementary class council. *Theor. Res. Soc. Educ.* 26(2):149-172.
- Arabacı İB (2005). Student participation in teaching-learning process and democracy in classroom. *Contemp. Educ.* 316:20-27.
- Aydoğan İ, Kukul F (2003). Öğretmen ile öğretim üyelerinin demokratik davranışlarının analizi. *Educ. Res.* 3(11):23-32.
- Barber BR (1998). *A passion for democracy: american essays*. New Jersey: Princeton University Press.
- Bartholomew D, Knotts, M, Moustaki I (2011). *Latent variable models and factor analysis: A unified approach*. (3rd ed.). West Sussex, UK: John Wiley & Sons.
- Başar H (2004). Sınıf yönetimi. 11. Baskı. Ankara: Anı Yayıncılık.
- Bayındır N, İnan HZ, Demir S (2010). Öğretmen adaylarının sınıfta demokratik ortamı geliştirmeye ilişkin öngörülerini. *Pamukkale Üniversitesi Sosyal Bilimler Enstitüsü Dergisi* 5:89-95.
- Beane JA (2005). A reason to teach: creating classrooms of dignity and hope. Portsmouth, NH: Heinemann.
- Büyükoztürk Ş (2013). *Sosyal bilimler için veri analizi el kitabı*. 13. Baskı. Ankara: Tarcan Matbaacılık.
- Byrne BM (2001). Structural equation modeling with AMOS, EQS, and LISREL: Comparative approaches to testing for the factorial validity of a measuring instrument. *Int. J. Testing* 1(1):55-86.
- Cattell RB (1978). *The scientific use of factor analysis in behavioral and life sciences*. New York: Plenum.
- Cavkaytar S (2013). Sınıf öğretmeni adaylarının Türkçe dersinde demokratik kültür bilincini geliştirmeye ilişkin görüşleri. *International Periodical For The Languages, Literature and Hist. Turk.* 8(13):607-631.
- Çermik H (2013). Öğretmen adaylarının demokratik değerleri ve bu değerlerin bazı değişkenler açısından incelenmesi. *NWSA-Education Sci.* 8(2):261-274.
- Child D (2006). *The essentials of factor analysis*. (3rd ed.). New York, NY: Continuum International Publishing Group.
- Cokluk O, Sekercioglu, G, Buyukozturk Ş (2012). *Multivariate statistics for the social sciences: SPSS and LISREL applications*. Ankara: Pegem Academy Publishing.
- Comrey AL, Lee HB (1992). *A first course in factor analysis*. Hillsdale, NJ: Erlbaum.
- Darling-Hammond L (2006). Constructing 21st century teacher education. *J. Teach. Educ.* 57(3):300-315.
- Dewey J (2010a). *Günümüzde eğitim [Education today]* (B. Ata & T. Öztürk, Trans. Ed., J. Ratner, Ed.). Ankara: Pegem Akademi. (Original work published 1970).
- Dobozoy E (2007). Effective learning of civic skills: democratic schools succeed in nurturing the critical capacities of students. *Educ. Stud.* 33(2):115-128.
- Doğan İ (2005). *Vatandaşlık demokrasi ve insan hakları*. Ankara: Pegem A Yayıncılık.
- Drugli MB, Hijemdal O (2013). Factor structure of student-teacher relationship scale for Norwegian school-age children explored with confirmatory factor analysis. *Scandinavian J. Educ. Res.* 57(5):457-466.
- Duman T, Koç G (2004). Eğitim fakültesi öğrencilerinin öğretim elemanlarının demokratik tutum ve davranışlarına ilişkin görüşleri. 13. Ulusal Eğitim Bilimleri Kurultayı'nda sunulan bildiri, İnönü Üniversitesi, Malatya.
- Dündar H (2013). Öğretmen adaylarının sahip olduğu değerler ile demokratik tutumları arasındaki ilişki. *J. Acad. Soc. Sci. Stud. Int. J. Soc. Sci.* 6(2):367-381.
- Genç SZ (2006). Demokratik kazanımların gerçekleştirilmesinde ilköğretim öğretmenlerinin etkililiğinin değerlendirilmesi. *Milli Eğitim Dergisi* 35(171):43-53.
- Gimbert B (2002). *The Responsive classroom: a practical approach for bringing democratic ideals into the daily fabric of classroom life*. Retrieved from <http://www.newhorizons.org/strategies/democratic/gimbert.htm> January, 10, 2016.
- Girgin G, Gürşimşek I (2004). The effects of acquisition of some concepts related with democratic attitudes by using active learning on learning level in preschool education]. *Proceedings of the International Symposium on Democracy Education, Çanakkale*. Turkey pp. 310-315.
- Goodlad J (2000). Education and democracy. *Phi Delta Kappan*. 82(1):86-89.
- Goodlad J (2002). Kudzu, rabbits, and school reform. *Phi Delta Kappan*. 84(1):16-23.
- Gömlüksiz MN, Çetintaş S (2011). Öğretmen adaylarının demokratik tutumları. *Dicle Üniversitesi Ziya Gökalp Eğitim Fakültesi Dergisi* 17:1-14.
- Gözütok D (1995). *Democratic attitudes of teachers*. Ankara: Türk Demokrasi Vakfı.
- Gutmann A (1999). *Democratic education*. Princeton: Princeton University Press.
- Guyton E, Rainer J (1999). Democratic practices in teacher education and the elementary classroom. *Teach Educ.* 15:121-132.
- Güven A, Kaya R, Aslan H (2014). Tarih öğretmen adaylarının demokratik tutumlarının çeşitli değişkenler açısından incelenmesi. *Middle Eastern Afr. J. Educ. Res.* 12:17-30.
- Hair JF, Anderson RE, Tatham RL, Grablowsky BJ (1979). *Multivariate data analysis*. Tulsa, OK: Pipe Books. <http://www.marthalakecov.org/~building/strategies/democratic/gimbert.htm>. Retrieved september, 12, 2015.
- Hooper D, Coughlan J, Mullen M (2008). Structural equation modelling: guidelines for determining model fit. *Electron. J. Bus. Res. Method.* 6(1):53-60.
- Hostetler A (2012). In pursuit of democratic practice: self study as a democratic approach to teaching social studies. *J. Inquiry Action Educ.* 5(1):63-82. [http://www.meb.gov.tr/meb\\_duyuruindex.php?KATEGORI=774](http://www.meb.gov.tr/meb_duyuruindex.php?KATEGORI=774) Okul ve öğrenci sayıları. İstatistik. retrieved January, 08, 2016 from [www.meb.gov.tr](http://www.meb.gov.tr).
- Jeans AB (1995). *Teacher education: an international research agenda*. world conference on teacher education. izmir: 9 Eylül Üniversitesi Yayınları.
- Jöreskog KG, Sörbom D (1996). *LISREL8 User's reference Guide*. SSI. Retrieved December 14, 2015, from <http://www3.stat.sinica.edu.tw/statistica/oldpdf/A8n37.pdf>
- Kalaycı Ş (2005). *SPSS uygulamalı çok değişkenli istatistik teknikleri*. Ankara: Asil Yayın Dağıtım.
- Kan Ç (2013). Sınıftaki eşitlikçi davranış ölçeğinin geliştirilmesi. *Electronic J. Soc. Sci.* 12(44):360-371. [www.osesder.org](http://www.osesder.org). ISSN:1304-0278.
- Karakütük (2001). *Demokratik laik eğitim (Çağdaş toplum olmanın yolu)*. Ankara: Anı Yayıncılık.
- Karatekin K, Merey Z, Kuş Z (2013). Öğretmen adayları ve öğretmenlerin demokratik tutumlarının çeşitli değişkenler açısından incelenmesi. *Kastamonu Eğitim Dergisi* 2(21):561-574.
- Kayabaşı Y (2011). Öğretmen adaylarının davranışlarının demokratik sınıf ortamı açısından değerlendirilmesi. *Gazi Eğitim Fakültesi Dergisi* 31(2):525-549.
- Kıroğlu K, Elma C, Kesten A, Egüz Ş (2012). Üniversitede demokratik bir değer olarak hoşgörü. *Sosyal Bilgiler Eğitim Araştırmaları Dergisi* 3(2):86-104.
- Kline RB (2011). *Principles and practice of structural equation modeling*. New York: The Guilford Press.
- Knight T (2001). Longitudinal development of educational theory: democracy and the classroom. *J. Educ. Policy* 16(3):249-263.
- Korkmaz HE, Gümüşeli, Aİ (2013). Development of The Democratic Education Environment Scale. *international online journal of educational sciences, International Online J. Educ. Sci.* 5(1):82-98.
- Kubow PK, Kinney MB (2000). *Fostering democracy in middle school classroom: Insights from a Democratic Institute in Hungary* [Electronic version]. *Soc. Stud.* 91(6):265-271.
- Lappé FM (2006). *Democracy's edge: choosing to save our country by bringing democracy to life*. San Francisco: Josey-Bass.
- Mac Math S (2008). Implementing a democratic pedagogy in the classroom: Putting Dewey into practice [Electronic version]. *Can. J. New Scholars Educ.* 1(1):1-12.
- Morrison KA (2008). *Democratic classrooms: incorporating student voice and choice in teacher education courses*. Retrieved september 14, 2015, from <http://www.newfoundations.com/Morrison.html>
- Morrison KA (2009). Making teacher education more democratic. *Educ. Horizons* 87(2):102-115.



- Parker WC (2003). Teaching democracy: Unity and diversity in public life. New York: Teacher College Press.
- Parker WC (2010). Social studies education eC21. Social Studies Today: Research and Practice. pp. 1-13.
- Pohan CA (2003). Creating caring and democratic communities in our classrooms and schools. *Childhood. Educ.* 79(6):365-373.
- Print M, Ornstrom S, Nielsen HS (2002). Education for democratic processes in schools and classroom [Electronic version]. *Euro. J. Educ.* 37(2):193-210.
- Pryor CR, Pryor BW (2005). Preservice teachers' attitudes and beliefs about democratic classroom practice: Influences on intentions for pedagogical integration. *Curr. Issues Educ.* 8 (6):1-11.
- Rainer J, Guyton E (1999). Democratic practices in teacher education and the elementary classroom [Electronic version]. *Teach. Educ.* 15(1):121-132.
- Riley CF (2011). Democratic ideals and practices in three public elementary classrooms. (Doctoral dissertation). Retrieved from Pro Quest dissertations and theses.
- Ritter JK (2010). Modeling self-study in social studies teacher education: Facilitating learning about teaching for democratic citizenship. In: A. R. Crowe (Ed.), *Advancing Social Studies Education through Self-Study Methodology: The Power, Promise, and Use of Self-Study in Social Studies Education*. Dordrecht, The Netherlands: Springer pp. 87-102
- Saraçoğlu AS, Evin İS, Varol SR (2004). İzmir ilinde çeşitli kurumlarda görev yapan öğretmenler ile öğretmen adaylarının demokratik tutumları üzerine karşılaştırmalı bir araştırma. *Kuram Uygulama Eğitim* 4:335-364.
- Schermelleh-Engel, K Moosbrugger H (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods Psychol. Res. Online* 8(2):23-74.
- Schwartz SH (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in twenty countries. *J. Exp. Soc. Psychol.* 28:1-65.
- Selvi K (2006). Developing a teacher trainees' democratic values scale: validity and reliability analyses. *Soc. Behav. Pers.* 34(9):1171-1178.
- Shechtman Z (2002) Validation of the democratic teacher belief scale, assessment in education. *Principles Policy Pract.* 9(3):363-377.
- Steiger JH (2007). Understanding the limitation of global fit assessment in structural equation modeling. *Pers. Individ. Diff.* 42:893-898. DOI:10.1016/j.paid.2006.09.017.
- Subba D (2014). Democratic values and democratic approach in teaching: a perspective. *Am. J. Educ. Res.* 2(12):37-40. doi: 10.12691/education-2-12A-6.
- Sümer N (2000). Yapısal eşitlik modelleri: temel kavramlar ve örnek uygulamalar. *Türk Psikoloji Yazıları* 3(6):74-79.
- Topkaya EZ, Yavuz A (2011). Democratic Values and Teacher Self-Efficacy Perceptions: A Case of Pre-Service English Language Teachers in Turkey. *Austr. J. Teach. Educ.* 36(8):30-48.
- Vinterek M (2010). How to live democracy in the classroom [Electronic version]. *Educ. Inquiry.* 1(4):367-380.
- Wenglinsky H (2000). How teaching matters: Bringing the classroom back into discussions of teacher quality. Princeton, NJ: Educational Testing Service, PolicyInformation Center. ERIC Document Reproduction Service No. ED447128.
- White WE, Van Scotter R, Hartoonian HM, Davis JE (2007). The problem: democracy at risk. *Soc. Stud.* 98(6):228-230.
- Yazıcıoğlu Y, Erdoğan S (2004). Spss uygulamalı bilimsel araştırma yöntemleri. Ankara: Detay Yayıncılık.
- Yeşil R (2003). Demokratik eğitim ortamının insan hakları temeli. *Gazi Üniversitesi Kırşehir Eğitim Fakültesi Dergisi* 4(2):45-54.
- Yeşil R (2010). Demokratik öğretmen davranış kararlılığı ölçeğinin geçerlik ve güvenilirliği. *Kuram ve Uygulamada Eğitim Bilimleri Dergisi* 10(4):2665-2692.
- Yiğit EÖ, Çolak K (2011). Democratic attitudes of social studies pre-service teachers. *Int. J. Res. Teacher Educ. (Special Issue).* 4(6):82-95.