



The Development of Deliberative Skills Scale: Validity and Reliability Study¹

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Abstract

Deliberative skills are particularly important for providing democracy-focused education. Teachers and prospective teachers who acquire these skills not only develop a public perspective on social issues as citizens but also acquire sufficient knowledge to design learning environments for their students accordingly. The aim of this study is to develop a valid and reliable measurement tool to measure the deliberative skills of teacher candidates. The research was carried out with 548 teacher candidates studying in different departments and grade levels at two separate state universities. The KMO value of the Exploratory Factor Analysis of the measurement tool was obtained as .94 and the Bartlett Sphericity chi-square value deemed appropriate was $X^2=9656.340$; $p<.01$. The final measurement tool was statistically structured as 26 items and four (4) factors. Again, certain fit indices of Confirmatory Factor Analysis (CFA) showed that the KMO structure of the tool was applicable. It was understood that the Cronbach Alpha value of the measurement tool was .92 and the total explained variance was 62.94%. In addition, because the lower and upper group means of all items of the final measurement tool were significant and provided internal consistency, it was concluded that the scale items were significantly ($p<.01$) discriminatory. Thus, the “Teacher Candidate Deliberative Skills Scale” is a valid and reliable tool that can be used to determine the deliberative approach skills of teacher candidates as a scale developed in a 26-item, four-factor, five-point Likert type.

Keywords: Deliberation, Deliberative Skills, Deliberation Skills Scale, Scale development

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Introduction

Due to economic, political, or technological factors, such as migration, war, technological changes, and pandemics, both globally and in our country, national structures are being transcended, and individuals from different cultures are beginning to live together. Similarly, in many regions and in almost every school in our country, students from different cultures and geographies are being educated together. When considering the teachers who will educate these students, it is primarily expected that these teachers will be equipped and qualified to teach in today's conditions. The professional qualifications expected of teachers in our country are teacher competencies determined by institutions such as the Council of Higher Education (YÖK) or the Ministry of National Education (MEB). These competencies include developing teachers' problem-solving, decision-making, critical thinking, and similar higher-level skills (Erdem & Yazıcıoğlu, 2015), in addition to professional knowledge and skills. Training teachers who possess 21st-century skills is considered important (Darling-Hammond, 2006). Moreover, considering that the decision-making status of the school as an institution will affect all individuals in the school, the participation of teachers in decision-making processes both in schools and as citizens across the country is one of the most important indicators of a democratic society and democratic participation (Başaran, 1986; Karaman Kepenekçi, 2003; Subba, 2014).

Deliberation is defined as a rational discussion process in which individuals listen respectfully to each other's views, discuss the current situation and consider various possibilities (Walzer, 2004). Deliberation is a process of discussion and negotiation aimed at generating valid and possible ideas (Chambers, 2003). Also, deliberation is described as a process in which an issue or preferences are discussed and decided in mutual communication (Bächtiger et al., 2018). Deliberation, as distinct from dialogue and discussion of multiple perspectives, describes the encounter with difficult changes (Mathews, 2014) through the thorough consideration of various alternatives and the consequent making of choices. Deliberation is known as a type of private conversation with its basic definition. Deliberation is a process in which discussion and personal choices are made in a democratic environment and within a group context (Dewey, 1957; Noddings, 1999).

Deliberative learning environments encourage learners' critical thinking and listening skills, reflective capacities, inclusion of other perspectives in their own ideas, creation of innovative energy and new ways of thinking. In this learning process, democratic decision-making procedures are strengthened because of the circulation of active learning experiences, effective communication behaviors, creating a basis for social interaction and facilitating communication. The concept of deliberative democracy was introduced in the United States colleges of education after the publication of Gutmann and Thompson's *Democracy and Conflict* in 1996, and some prominent scholars (Giroux, 1992; Goodlad, 1990; Kasprisin, 2008). In the literature, the articles exploring the place of democracy and designing a democratic education laboratory model initiated both theoretical and practical applications of deliberative democracy in teacher education by addressing recent changes in democracy (cited in Stitzlein, 2010). Again, Stitzlein (2010) stated that changes in the field of education in America have made it more important to teach the art of deliberative democracy in the teacher education curriculum.

In the process of deliberative approaches different strategies, methods and techniques are used and at the same time and many pedagogical benefits arise. For this reason, the concept of “deliberation” used in educational environments is defined as “teaching approach” in the literature (Longo, 2013). When all the mentioned variables are taken into consideration, the deliberative teaching approach targets individual awareness and serves social consensus in general (Parker, 2010). This quality, which is specific to the deliberative approach, inspired the realization of this research. Considering that teacher education has a great multiplier effect on the formation of the quality of social structure, it is considered very important to develop pre-service teachers' behaviors that enable them to “deliberate” individually, to teach deliberation and to create deliberation environments (Durry et al., 2016). Therefore, it is thought that this developed tool will make significant contributions to the process of training pre-service teachers with deliberative skills.

The use of deliberation and deliberative approaches in education and training environments is especially necessary to create a democratic education and training environment and to enable students as citizens to talk and discuss social and political issues (Hahn, 1998; Parker, 2003). With the social structure and cultural diversification of the world, students with different cultural structures and thoughts have started to take place in education and training environments. The preparation of education and training environments using deliberative approaches is very important for the creation of democratic education processes and democratic living conditions. It is emphasized that the use of deliberative teaching approaches in learning environments supports many features of students such as deliberating, proposing solutions to social problems or making decisions about public issues (Evans & Saxe, 1996; Hess & McAvoy, 2014) and as a result of using social issues and problems in teaching processes, students' ability to think, discuss and make decisions by deliberation will serve to raise democratic, active and informed citizens (Bandura, 1997).

In the literature, it is stated that because of the development of deliberative skills, thinking skills such as critical thinking, problem solving and decision making (Cole, 2013; Manosevitch, 2019) as well as students' communication skills (Englund, 2006) and self-confidence (Morrel, 2005) are also improved. It is known that the use of deliberative teaching approaches in classroom environments provides students with empathy skills (Murray, 2013) and awareness and sensitivity to social problems as a social individual (Mendelberg, 2001). In addition, it has been observed that students' democratic participation improves in deliberative teaching processes (Torney-Purta et al., 2001). It is of course the teacher's duty to create a democratic environment in classrooms. Therefore, democratizing the classrooms and enabling students to acquire deliberative approach skills requires teachers to have these skills. Also, it is possible to come across scale and tools developed for both students and prospective teachers (Durry et al., 2013; Murray, 2013; Weinmann, 2018) regarding the measurement and evaluation of deliberative skills. This study is considered important to measure the deliberative approach skills that emerge because of the deliberative teaching approach practices, which are emphasized as a new teaching approach that incorporates the necessary teacher characteristics in multicultural and democratic societies, which have been emphasized recently.

Although the deliberative approach skills of those in deliberative teaching environments have been determined by various studies and scales in literature, there are no scales and studies observed on this subject in the national press (Durry et al., 2016; Longo, 2013; Mathews, 2012). For this reason, this study aims to develop a scale that determines the deliberative approach skills after deliberative teaching processes in the Türkiye context. The aim of this study is to develop the measurement tool "Teacher Candidate Deliberative Skills Scale" to determine the deliberative skills of pre-service teachers.

Method

The Research Model

This research was structured using quantitative research method. This research design is a descriptive study based on the survey design. Survey designs are used to describe a past or current situation as it exists (Karasar, 2019: 109). Descriptive statistical analyses, construct validity, convergent and divergent validity, Cronbach's Alpha internal consistency and reliability analyses were conducted to examine the properties of the Teacher Candidate Deliberative Skills Scale.

Participants of study

The participants of the study consisted of 548 pre-service teachers studying at the faculties of education of two state universities in Türkiye. The sample of the study was determined using the convenience sampling method to accelerate data collection during the study process (Kılıç, 2013). The participants were included in the study on a voluntary basis. In the literature, it is emphasized that the number of participants should be 300 people (Tabachnick & Fidell, 2009) or at least 5 times the

number of scale items (Gorcsuch, 2015) in order to perform factor analysis. Data were collected from 548 pre-service teachers in total for the draft scale, which initially consisted of 75 items. Table 1 summarizes the participants of the study.

Table 1
Study Group

	Group	f	%
Gender	Female	448	82
	Male	100	18
	Total	548	100
Age	18-20	227	41
	21-23	261	48
	24-26	43	8
	27+	17	3
	Total	548	100
University	University 1	385	70
	University 2	163	30
	Total	548	100
Department	Science Teaching	190	35
	Turkish Language Teaching	91	17
	Social Studies Teaching	66	12
	Classroom Teaching	50	9
	PrimaryMathematics Teaching	46	8
	English Language Teaching	35	6
	Guidance and Psychological Counselling	26	5
	Arabic Language Teaching	23	4
	Other	21	4
Total	548	100	
Level	1.	124	23
	2.	122	22
	3.	165	30
	4.	137	25
	Total	548	100

As reported Table 1; 548 participants of the study, 82% were female participants and 18% were male participants. Of the 548 prospective teachers, 41% were between the ages of 18-20, 48% were between the ages of 21-23, and 11% were over the age of 23. 70% of the participants in the sample were studying at a first state university, while 30% were studying at a second state university. In addition, 35 of the 548 participants were science teachers, 17% were Turkish teachers, 12% were social studies teachers, 9% were classroom teachers, 8% were mathematics teachers, and 19% were in other departments. Finally, of the 548 participants who participated in the study, 23% were first-year teachers, 22% were second-year teachers, 30% were third-year teachers, and 25% were fourth-year teachers.

Data Collection Procedure

All participants participated in the study using online survey tools. Google Forms was used to collect data from the participants of study. Before the study process, ethics committee approval for this study was obtained by the Süleyman Demirel University Social and Human Sciences Ethics Committee with the decision number 8 of the 112th meeting dated 14.10.2021. During the study process, the purpose of the study was explained to the participants, and the voluntary participation of

the participants was ensured by obtaining their voluntary participation approval before the data collection tools were applied to the participants.

In the development process of the scale, the steps of creating the item pool in the first stage, obtaining expert opinion in the second stage, conducting factor analysis in the third stage and calculating reliability in the fourth stage were followed (Balcı, 2016).

Firstly, item pool was created by experts. At this stage, the relevant literature was examined in detail and related studies were revealed by scanning theses, articles, reports, books and related web pages about deliberative approach and deliberative pedagogy. During this process, the researchers noted frequently mentioned concepts, descriptions, and sentences. Afterwards, frequently used concepts and sentences were noted within the framework of the information obtained, and a candidate scale consisting of 82 items in total was created with a 5-point Likert type as “strongly disagree”, “disagree”, “no opinion”, “agree” and “strongly agree”.

In the second stage, expert opinion was obtained for the candidate scale from experts in their fields. For expert opinion, the candidate scale was sent to a total of six experts working in the fields of measurement and evaluation, guidance and psychological counselling, Turkish education, educational administration, and curriculum and instruction to check the content validity. Experts removed some scale items and change some sentences because of the same meaning of items. After expert opinions, the researchers discussed the items and improved sentences of the scale. As a result of the expert feedback, the scale items were reduced to 75 by making sentence and word corrections.

In the third stage, Exploratory Factor Analysis (EFA) was conducted to determine the construct validity of the candidate scale and Confirmatory Factor Analysis (CFA) was conducted to test the accuracy of the factor structure. Finally, reliability calculations of the prepared scale were carried out.

Data Analysis

The necessary analysis programs were used to analyze the data obtained during the scale development process. Firstly, EFA and CFA requirements were examined before the application. To apply the results of the research, SPSS 22 analysis programs were used for EFA results and LISREL analysis programs were used for CFA. To conduct factor analyses, the sample size was checked and five participants per item suggested by Gorsuch (2015) was accepted as the lower limit and data were collected from 548 participants. The 75-item draft scale had a sufficient sample to be analyzed. In addition, sampling adequacy for factor analysis was examined with Kaiser-Meyer-Olkin (KMO) value. In the literature, KMO value should be between 0-1 for factor analysis and KMO value. It is emphasized that factor analysis can be performed when the KMO value is greater than 50 (Şencan, 2005). The Kaiser-Meyer-Olkin (KMO) value was checked during the EFA application. The results showed that the KMO value, calculated as .94, was suitable for the analysis. As a result of the KMO analysis, it was decided that the data set was suitable for the analysis. To perform factor analysis on the data set is provided if Bartlett Sphericity test is significant.

For EFA application, factor loadings were checked. For CFA results, GFI (Goodness of Fit Index) value for Goodness of Fit Index, AGFI (Adjusted Goodness of Fit Index) value for Adjusted Goodness of Fit Index, CFI (Comparative Fit Index) value for Comparative Fit Index, NNFI (NonNormed Fit Index) value for Non-Normalised Fit Index, NFI value for Normed Fit Index and RMSEA (Root Mean Square Error of Approximation) value for Root Mean Square Error of Approximation results were checked.

Bartlett's Sphericity value was examined the Bartlett test in order to the data set has a correlation structure suitable for EFA. Considering the chi-square ($X^2=9656.340$; $p<.01$) results of this value, it was decided that factor analysis was appropriate. The significant Bartlett Sphericity value indicates that the distribution of the sample in the universe is normal (Tavşancıl, 2002). Since the obtained data showed a normal distribution, it was possible to use the Maximum Likelihood method. Varimax was used as the rotation technique.

The Cronbach Alpha value of the measurement tool was .92 and the total explained variance was 62.94%. In addition, because the lower and upper group means of all items of the final measurement tool were significant and provided internal consistency, it was concluded that the scale items were significantly ($p < .01$) discriminatory. Thus, the “Teacher Candidate Deliberative Skills Scale” is a valid and reliable tool that can be used to determine the deliberative approach skills of teacher candidates as a scale developed in a 26-item, four-factor, five-point Likert type. Detailed results related to the scale for EFA and DFA are presented in the findings section.

Findings

In this section, Exploratory Factor Analysis (EFA) for deciding factor numbers and factor loadings of the Deliberative Approach Skills Scale, Confirmatory Factor Analysis (CFA) was applied to check the accuracy of the factor structure and Cronbach Alpha for validity and reliability results are presented.

Findings of Exploratory Factor Analysis

Within the scope of the study, the suitability and assumptions of the data obtained to develop the scale for EFA were checked and it was decided that the data were suitable for analysis. Firstly, to decide on the number of factors, vertical rotation was applied, and factor loads were determined with varimax rotation loads to obtain more than two factors. In order to decide on the number of factors, the eigenvalues and the scree plot were analyzed. When the results were analyzed, it was found that there was a 4-factor structure with eigenvalues exceeding 1 and the contribution of these factors to the total variance was 62.94%. When the dot curve graph is checked, it is seen that the scale consists of four (4) factors.

As a result of EFA, the loadings of the factors were evaluated. In literature, factor loadings of .45 and above are considered appropriate. However, it is recommended to take factor loadings as .30 provided that there are not too many items (Büyüköztürk, 2017). In addition, items that load on more than one factor in multi-factor structures are called overlapping and are recommended to be removed (Kalaycı, 2010). As a result of the analysis, 52 items that did not meet the criteria were removed from the scale by considering these recommendations in the relevant literature on item and factor loadings, and the analysis was repeated after each item was removed. According to the results of EFA, the draft scale consisting of 75 items resulted in a 4-factor measurement tool consisting of 26 items. The factor values of the 26-item that emerged after the EFA analyses are presented in Table 2.

Table 2
Factor values

Factors	Eigenvalues	Variance	Cumulative Percentage
Thinking Skills	9.128	28.50	28.50
Self-Confidence	4.269	18.96	47.46
Empathy	1.600	8.08	55.54
Democratic Participation	1.367	7.40	62.94

Table 2 summarizes the factors and their eigenvalues. Accordingly, in order of importance, the first factor has an eigenvalue of 9.128 and explains a total of 28.50% variance. The second factor had an eigenvalue of 4.269 and explained a total variance of 18.96%, while the third factor had an eigenvalue of 1.600 and explained variance of 8.08%. The eigenvalue of the fourth and last factor was 1.367 and the explained variance was 7.40%.

Table 3
Factor Loadings and T Values of the Scale Items

Items	Factor 1	Factor 2	Factor 3	Factor 4	t
74	.841				8.874*
47	.837				9.756*
51	.832				7.653*
64	.832				7.204*
31	.827				8.629*
67	.791				8.678*
35	.781				7.443*
55	.768				7.01*
28	.753				9.986*
2	.743				8.007*
60	.716				6.225*
69		.769			5.347*
21		.768			6.496*
11		.768			6.876*
36		.759			5.080*
10		.696			2.629*
9		.685			6.946*
39		.650			4.870*
33		.631			5.386*
53		.629			2.671*
13			.830		5.658*
15			.800		5.661*
68			.660		5.634
37				.788	3.840*
1				.735	5.765*
27				.726	6.232*

*p< .01

As reported Table 3, when the analysis results given above are examined, it is seen that the item loadings of the first factor are between .716 and .841 and a total of 11 items including 74th, 47th, 51st, 64th, 31st, 67th, 35th, 55th, 28th, 2nd and 60th items are included in this factor. This factor was named as thinking skills since the items in this factor included thinking skills such as problem solving, critical thinking and decision making. When the second factor was examined, it was seen that the factor loadings were between .769 and .629 and 69th, 21st, 11th, 36th, 10th, 9th, 39th, 33rd and 53rd items were loaded on this factor. Since the items in the second factor were related to pre-service teachers' self-confidence skills, this factor was named as self-confidence. The item loadings in the third factor ranged between .830 and .660 and 13th, 15th and 68th items loaded on this factor. Since these items were related to empathy skills, this factor was named as 'empathy'. Finally, the item loadings of the fourth factor varied between .788 and .726 and the 37th, 1st and 27th items were loaded to this factor. Since the contents of these items were within the scope of democratic participation and social sensitivity, this factor was named democratic participation. To summarize, with the results of EFA, the 75-item draft scale was transformed into a four-factor 26-item scale and the item loadings and factor contents were briefly explained.

Cronbach Alpha Values

In the second stage to check the reliability of the scale, Cronbach Alpha values of the scale, which was formed as 26 items and 4 factors after EFA checked. Table 5 presented the Cronbach Alpha values of factors.

Table 4
Cronbach Alpha Values

Factors	Cronbach Alpha values
Thinking Skills	.95
Self-Confidence	.88
Empathy	.76
Democratic Participation	.74
Total Scale	.92

As presented Table 4, the total reliability coefficient of the scale, which was expressed as 62.94% of the total explained variance, was determined as 92%. 92%. When the reliability coefficients of the factors separately were analysed; for the first factor. 95, for the first factor. 88, for the third factor. 76 and for the fourth factor. 74 for the fourth factor.

Findings of Confirmatory Factor Analysis

Firstly, factor structure and items were determined with the results of EFA. After EFA, Confirmatory Factor Analysis (CFA) was applied to examine the accuracy of the obtained factor structures. The structure underlying the data obtained with CFA is seen as the next stage of the EFA (Lee, 2007). CFA is recommended to be used as the next stage to examine the accuracy of predetermined factor structures (Erdoğan et al., 2007). With CFA analysis, it is assumed that more than one latent variable in the scale is explained by a different latent variable and the suitability of this assumption to the data obtained is tested (Şimşek, 2007).

In CFA analysis, various fit indices and their statistics can be used to check the item and model suitability in the scale. In the CFA application on behalf of this scale; GFI (Goodness of Fit Index) value for Goodness of Fit Index, AGFI (Adjusted Goodness of Fit Index) value for Adjusted Goodness of Fit Index, CFI (Comparative Fit Index) value for Comparative Fit Index, NNFI (NonNormed Fit Index) value for Non-Normalised Fit Index, NFI value for Normed Fit Index and RMSEA (Root Mean Square Error of Approximation) value for Root Mean Square Error of Approximation. The values related to these indices in the literature and the CFA results of the scale are presented in Table 5.

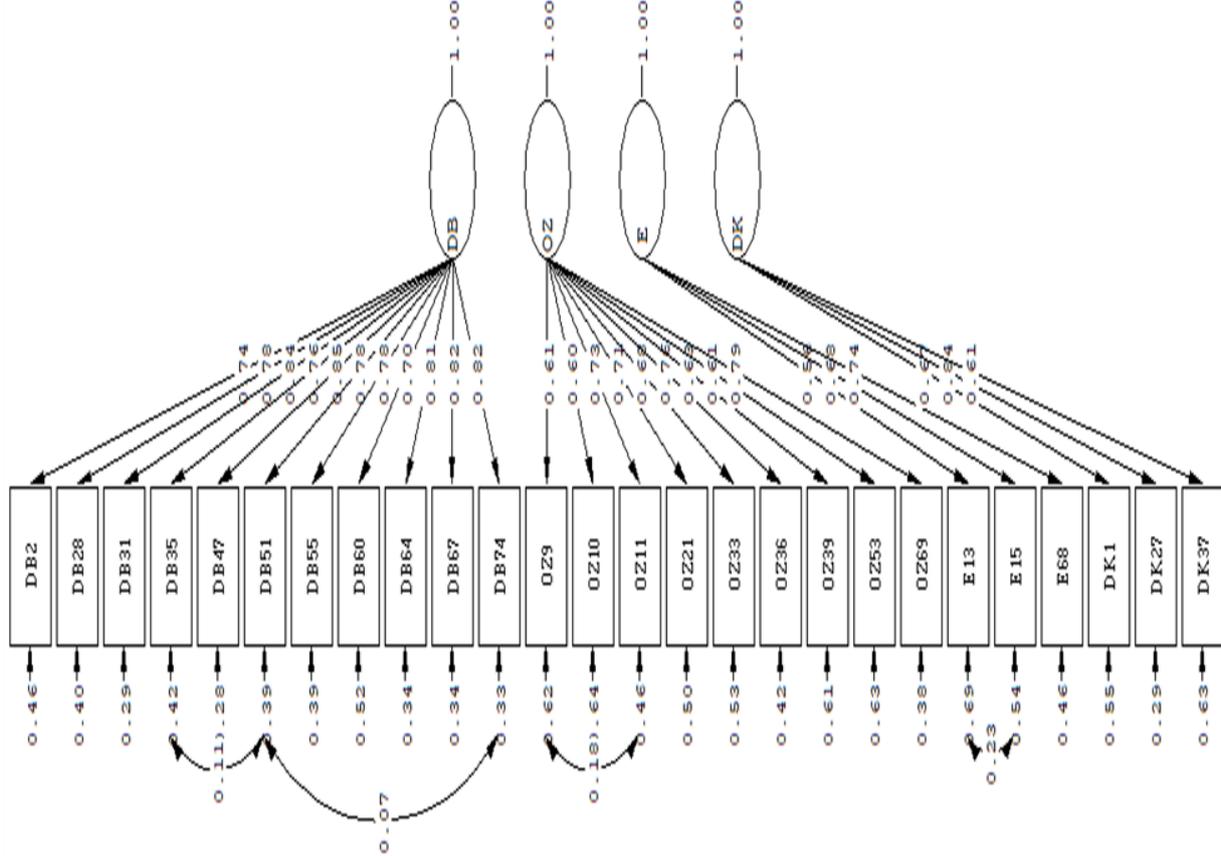
Table 5
Confirmatory Factor Analysis Fit Values

Fit Indices Examined	Excellent Fit Criteria	Acceptable Fit Criteria	Fit Indices from CFA
X ² /sd	$0 \leq \chi^2/sd \leq 2$	$2 \leq \chi^2/sd \leq 5$	2.87
GFI	$0.950 \leq GFI \leq 1$	$0.900 \leq GFI \leq 0.95$.90
AGFI	$0.900 \leq AGFI \leq 1$	$0.850 \leq AGFI \leq 0.90$.87
CFI	$0.970 \leq CFI \leq 1$	$0.950 \leq CFI \leq 0.97$.98
NNFI	$0.970 \leq NNFI \leq 1$	$0.950 \leq NNFI \leq 0.97$.97
NFI	$0.950 \leq NFI \leq 1$	$0.900 < NFI \leq 0.95$.97
RMSEA	$0.00 < RMSEA < 0.05$	$0.05 \leq RMSEA \leq 0.10$	0.05

As reported Table 5, the values stated by Schermelleh-Engel, Moosbrugger, and Müller (2003) were examined as the fit indices of the CFA results given in Table 3. According to these results, $0.00 < RMSEA \leq .10$, $.0900 < NFI \leq .950$, $0.950 \leq NNFI \leq 0.97$, $.950 < CFI \leq .970$ were expressed as acceptable fit ranges; $0 < 2 /sd \leq 2$, $.950 \leq GFI \leq .10$ and $0.900 \leq AGFI \leq 1$ were accepted as perfect fit ranges. Other fit values obtained because of CFA (RMSEA = .005, 2 /sd = 2.87; GFI = .90; AGFI = .87) are acceptable and (CFI = .98, NNFI = .97, NFI = .97) are excellent. In addition, the results showed that NFI = .97, which is expressed as sensitive to the number of samples (Hooper et al., 2008), is within the excellent criterion range. Therefore, it can be said that the structure of the factors in the model obtained because of the analysis was confirmed. Finally, it was seen that the structure of

the scale consisting of 26 items and four factors was confirmed and the scale was applicable. The model of the measurement tool because of the item distribution of the factors according to the CFA results is given in Figure 1.

Figure 1
 CFA model



When Figure 1 is examined, according to the CFA results, the structure of the Teacher Candidate Deliberative Skills Scale consisting of four factors and 26 items was confirmed and it was proved to be an applicable scale.

Validity and Reliability Results

Reliability is defined as the ability of a scale to produce similar and close results in every application and under constant conditions (Bell, 2014). After EFA and CFA, the validity and reliability of the 26-item, 4-factor scale was examined. In order to compare the internal validity of the final form of the scale, the differences between the item mean scores of the lower 27% and upper 27% groups were examined using an unrelated t-test. To ensure internal consistency, the difference between the groups should be significant (Marczyk et al., 2005). The data related to the internal validity test are presented in Table 6.

Table 6
 Internal validity results

	N	$\bar{x} \pm SS$	t	p
Lower group	148	3.7 ± 0.35	42.97	< .01
Upper group	148	4.7 ± 0.15		

Table 6 stated that when the data presented in Table 5 are analyzed, it is seen that the difference between the mean scores of the lower and upper groups is significant according to the results of the unrelated t-test ($p < .01$). Considering these results, the scale has internal consistency due to the separation of factors. As a result, the 5-point Likert-type 26-item and 4-factor structure of the scale as “strongly disagree”, “disagree”, “no opinion”, “agree” and “strongly agree” was approved and it was decided that the structure of the scale was appropriate to apply after the reliability analyses.

Conclusion and Discussion

In this study, it was aimed to develop the Teacher Candidate Deliberative Skills Scale. Firstly, the draft scale, which was prepared as a result of the literature review and consisted of 82 items, was reduced to 75 items by taking expert opinion. The draft scale consisting of 75 items was collected from 548 pre-service teachers and factor analyses were performed since the data obtained met the assumptions. In order to test the scale; item analyses, item analyses based on lower and upper group averages, internal consistency coefficient and correlation coefficients between factors were checked. As a result of exploratory and confirmatory factor analyses, 26 items were transformed into a four-factor structure. As a result of reliability analyses, Cronbach Alpha value of the scale was found to be .92. .92 was found. As a result of the analyses, it was decided that the 4-factor structure of the scale consisting of 26 items was applicable.

When the related literature is examined, it is emphasized that individuals' problem-solving skills (McMillan & Harriger, 2007), decision-making skills (Biesta, 2004) and critical thinking skills (Doherty, 2012) improve with the use of deliberative teaching approaches and deliberative pedagogy in learning environments. Likewise, it has been stated that those who take part in deliberative teaching approaches and negotiation processes improve their communication skills and express themselves better (Rain-Griffith, 2020) and develop their self-confidence in this process (Carcasson, 2013). In addition, it has been stated that in deliberative teaching environments, individuals can better understand those with differences, respect the ideas and feelings of others, and develop empathy skills (Shaffer, 2014). In addition, considering that teachers are citizens and are the main factor in the structuring of society and future generations, it is expected that their democratic participation skills and social sensitivity will be developed. Studies have shown that deliberative teaching approaches and learning environments prepared in the context of deliberative democracy positively affect individuals' understanding of democracy and democratic participation (Parker, 2003).

As a result of the literature review conducted after the finalization of the scale, the factors in the scale were named as thinking skills, self-confidence empathy and democratic participation. The 11 items in the first factor include items related to problem solving, decision making and critical thinking of prospective teachers (Evrekli et al., 2015). These items are skills within the scope of thinking skills. The 9 items in the second factor are related to preservice teachers' self-confidence and communication skills (Malanova et al., 2017). Therefore, the second factor including these items was named as self-confidence. Since the 3 items loaded to the third factor were related to the empathy skills of pre-service teachers (Pala, 2008), this factor was labelled as empathy. The fourth and last factor was loaded with items related to the democratic participation skills and social sensitivity of the pre-service teachers (Karaman Kepenekçi, 2001). In this context, the fourth factor was named as democratic participation.

As a result, the main purpose of educational processes and democratic societies is that students, teachers and teacher candidates are competent in certain issues such as thinking skills, self-confidence, communication, empathy, democratic participation and social sensitivity. Therefore, it is possible to construct stronger and democratically competent societies by integrating deliberative teaching approaches into learning environments. In this study, a scale development study was conducted to measure deliberative approach skills.

Limitations of the Study and Suggestions

The developed scale aims to measure the negotiation skills of pre-service teachers. The participants of this study are limited to the participation of pre-service teachers from two state universities. Also, the self-reported data raises the possibility of participant bias, social desirability, demand characteristics, and response sets. As a limitation of the study determining and reducing the items process. Therefore, considering the results of the scale development study, the following suggestions can be presented. It is recommended that the scales and studies be developed in this context in the future should be comprehensive studies including students, teachers and citizens. This study was developed to measure the deliberative skills of pre-service teachers. In future studies, it is recommended to carry out scale development studies to determine the deliberative skills of students and teachers. The sample of this study consists of pre-service teachers studying at two state universities. In future studies, it is recommended to expand the sample with pre-service teachers studying at different universities.

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