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Teaching Styles Scale: Validity and Reliability Study [1]

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Abstract

In this study, it was aimed to develop a valid and reliable scale to determine the teaching styles of teachers. The final scale composed of 44 items were applied to the 605 teachers with various branches. Participants are teachers who are working in private and public schools in the province of Hatay. This study is one of the types of quantitative research, scale development research. The data obtained from the teachers was analyzed with confirmatory factor analysis. AMOS software was used for data analysis. In the reliability stage of the study; the internal consistency coefficient was calculated as 0.877. As a result of the research, a scale with 3 factors 14 items was developed for the teaching styles of the teachers whose validity and reliability were provided. The reliability coefficients for the sub-factors are 0.816 for visuality, 0.760 for auditory and 0.646 for kinesthetic. This result shows that the scale is reliable.

Keywords: Teaching Style, Scale Development, Teacher, Teaching.

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Introduction

It is thought that the educational process is based on mutual communication and interaction and that the realization of learning is valuable in terms of quality. Information about individual differences in education and the learning of individuals in different ways is a knowledge dating back to 2500 years ago (Simsek, 2007). Different forms of learning still affect the education and training process and led to the search for various solutions in terms of more qualified learning. Considering the reasons for the reflection of the teachers' performance, attitudes and behaviors in the classroom atmosphere to the students, it can be said that the teacher may have a positive and negative effect on the education-training process. The importance of teacher-student interaction in terms of classroom atmosphere and mutual adaptation is a situation revealed by some studies (Sovyanhadi and Cort, 2004; Balderstone, 2005; Artvinli, 2010). Learning and teaching styles play an important role in providing this quality (Guven, Polat, Yıldızer, Sonmez and Yetim, 2016) also increases motivation (Veznedaroglu, 2005). This helps students to achieve high-quality learning. In addition, according to Simsek (2002), the academic achievement of students is directly proportional to the harmony between learning styles and learning activities. Therefore, the factor that determines the way of teachers will bring their students to the achievements targeted in the curriculum is their knowledge of the field they have and their preferred teaching methods (Unal, 2017). In addition to focusing on the diversity of learning activities and the factors affecting the learner's learning style, it can be said that the teacher's teaching style contributes to the process. Based on the learner-teacher interaction, the teaching style of the teacher, as well as the learner's learning style, is important for the formation of a quality education environment. According to Soloman and Felder (2005), it is important to know the teaching styles of the teachers in order to increase the permanent knowledge acquisition of the students and to provide a more qualified teaching environment.

Students may have difficulty in adapting to the course during the learning process, maybe bored, may not be able to exhibit their academic proficiency (Felder and Silverman, 1998; Felder and Henriques, 1995). Because of these possible situations, regarding the harmony between the teacher's teaching style and the learner's learning style in the education and training process, it is valuable to ensure the permanence of knowledge. In order to ensure this harmony, different models and different questionnaires and scales have been developed in order to determine the teaching styles of teachers. Some scales were developed by the researchers were adapted to Turkish (Karatas, 2004; Ertekin, 2005; Uredi, 2007; Ince and Hunuk, 2010; Artvinli, 2010). Although different measurement tools developed in the context of different theoretical foundations in the world (Brostrom, 1979; Dunn and Dunn, 1979; Kolb, 2005; Keefe and Ferrell, 1990; McCarty, 1997; Reid, 1987; Soloman and Felder, 2005) It was stated that the number of limited (Guven, Cardak, Sever and Vural, 2008). In this study, it is believed that teachers' internalization of the course acquisitions in the classroom will be supported

by the students while students are able to realize their preferences and orientations in this process. Thus, this study is thought to contribute to the literature due to the limited number and type of scale were developed and were adapted to teaching styles in the literature. The fact that the existing scales are not sufficient in the literature and that the existing scales are in English in terms of the publication language limits the researchers interested in this subject. For the purpose, the following question was sought in the research: 1. Is the scale developed to determine teachers' teaching styles valid and reliable?

Review of Literature

Style study was based on a period of time from 1940s to 1970s (Bayraktar and Otrar, 2007). The study on learning styles was first introduced by Rita Dunn in 1960 (Boydak, 2017, p. 3). After the 1970s, the concept of style has become more widespread and has been included in education topics and research as learning style and theories (Rayner and Riding, 2013). This situation also paved the way for investigating the relationship between individual differences and diversity in learning. Rita Dunn, who published her article "Learing Styles, Teaching Styles" in 1975, explained how the process should be directed for both the learner and the teacher during the learning-teaching process.

In the literature, there were definitions made by different researchers related to teaching style (Ekici, 2003; Ellis, 1979; Grasha, 2002). It has been seen that the keywords are widely used. Fischer and Fischer (1979), one of these researchers, defined the teaching style as the instructional behaviors that a teacher adopted and consistently displayed in the teaching process. Grasha (2002), on the other hand, defines the teaching style as the attitudes and behaviors that the teacher does or does not manifest.

Studies have been done on how the concept of style affects the individual's learning and in what direction it has developed. Thus, it has been revealed that the differentiation of the individual's learning is the result of the different structures they possess. In this field, academic studies have been conducted on various learning styles that have continued until today. Orak (2015) investigated the frequency of learning styles used in academic studies between 2000 and 2013 for learning styles developed in his study. As a result of this research, it has been found that the most used learning style is Kolb Learning Style and Grasha and Riechman Learning Style. Similarly, Acil and Hurriyetoglu (2018) examined the studies that can be reached between 2000-2017 in their studies on the frequency of use of learning style models used in Mathematics, Science and Turkish lessons. As a result of the study, it was concluded that Kolb learning style was used more widely. After the Kolb learning style, Grasha and Riechman learning style, McCharty learning style and Dunn and Dunn learning style are the most widely used learning style. In the studies conducted from past to present, there are studies that support teachers to teach with the style they have learned (Dunn and Dunn, 1979; Stitt-Gohdes, 2001). The attitudes and behaviors that the teacher exhibits with the method-technique used in the

teaching process constitute the style of the teacher. It is supported by studies where each teacher has a unique teaching style (Dressel and Marcus, 1982; Woods, 1995; cited Bilgin and Bahar, 2008).

After the launch studies for their teaching and learning styles in Turkey, in order to ensure the achievement of learning acquisitions and learning to make permanent, scale development and adaptation studies in this area have been made (Beceren, 2004; Yılmaz, 2004; Hasırcı, 2007). Moreover, the adaptation of the scales developed abroad to Turkish is also preferred (Saban, 2002; Bilgin, Uzuntiryaki ve Geban, 2002; Karatas, 2004; Uredi, 2006; Ertekin, 2005; Artvinli, 2010; İnce ve Hunuk, 2010; Sarıtas ve Sural, 2010). The scale adapted for the teaching styles Turkey was seen that the scale most Grasha Teaching Style Model (Guven, Polat, Yıldızer, Sonmez ve Yetim, 2016). This scale has been used in different studies in Turkey (Bilgin, Uzuntiryaki and Kebler, 2002; Karatas, 2004; Uredi (2007), Saritas and Sural, 2010). For example, Uredi (2007) investigated the power of classroom teachers' perceptions of the teaching profession to predict their preferred teaching styles.

Method

Research Model

In this study, it was aimed to develop a valid and reliable scale to determine the teaching styles of teachers. This study was included in the quantitative research model as it was a scale development study and analyzed by quantitative methods. Muijs (2004) defines the quantitative research method as a form of research that enables observations and measurements to be observed objectively and also expressed by numerical data (pp. 1-2). In addition, quantitative research patterns can be defined as the examination of numerical and concrete data (Macmillan and Schumacher, 2010, p. 21). Numerical and concrete data give objective quality to the studies. With this feature, the data is collected by the quantitative method provides access to a large number of participants (Greene, Krayder and Mayer, 2005). The fact that the number of participants in qualitative research studies is higher than the sample group makes the quantitative research method more reliable. In the light of this information, it is considered appropriate to explain this study as a scale development study in order to determine the teaching styles of teachers in the non-experimental design category suitable for quantitative research design.

Participants

In the literature, it was emphasized that the sample should be at least 5 times the number of items used in the scale (Bryman and Cramer, 2001; Children, 2006). Comrey and Lee (1992) said that 500 samples were very good, 1000 samples were perfect. In this study, a total of 605 teachers (299 males and 306 females) were found in Turkish, Science and Technology, Biology, Chemistry, Physics, Mathematics, English, Classroom Teacher, Kindergarten Teacher, Language, Expression, Primary,

Secondary and Secondary Schools. Since the number of items in this study was 44, it can be stated that 605 teachers are sufficient. It is important that teachers volunteer to work.

Table 1. Demographic characteristics of the teachers

Gender	Frequency	Percent (%)
Female	306	50.6
Men	299	49.4
Total	605	100
Education status		
Associate Degree	44	7.3
License	500	82.6
Master's Degree	46	7.6
PhD	1	0.2
Set	14	2.3
Total	605	100
Years of experience		
1-5 years	105	17.4
6-10 years	83	13.7
11-15 years	126	20.8
16-20 years	159	26.3
26 years and older	132	21.8
Total	605	100
Where a teacher's work		
Province center	319	52.7
City center	159	26.3
Town/Town	41	6.8
Village	86	14.2
Total	605	100

When Table 1 is examined, it is seen that 82.5% of the sample consists of 605 teachers who have a bachelor's degree and represent the majority. It was determined that the number of teachers who graduated from the doctoral program in the same department constitutes 0.2% of the sample and the proportion constitutes a minority. When the years of experience of the teachers are examined, it can be said that they constitute the majority of the votes with a maximum of 26.3% between the ages of 16-20 and 13.7% of the teachers with 6-10 years of experience. Finally; When the places where the teachers work are examined, it can be said that the ratio of teachers working in the city center is 52.7% more than the other places.

Data collection tool and process

At the stage of forming the theoretical framework of the teaching style scale, studies and scales related to teaching styles were examined in the literature (Adams, 2000; Artvinli, 2010; Dunn and Dunn, 1979; Ellis, 1979; Ekici, 2003; Eskici, 2008; Fischer and Fischer, 1979; Felder and Siverman, 1988; Felder and Henriques, 1995; Gencel, 2013; Grasha, 2002; Huang, 2009). While constructing the theoretical framework of the scale, the dimensions that affect teachers' teaching styles were taken into consideration and these dimensions were prepared by taking into consideration the studies examined in the literature (Artvinli, 2010; Uredi, 2007; Yılmaz, 2004). The three factors

included in the scale and found in Yılmaz (2004) study are also included in this study. These are visual, auditory and tactile/kinesthetic categories.

Scale preparation process is not a random process and it was a systematic process involving certain stages. These stages consist of similar items in many scale studies. For example, the process, which first started with the researches about the theoretical framework of the related scale, was followed by a sequence of form and substance pool, application of expert opinion, pre-application, and arrangement of the scale, validity and reliability analyzes and finalization of the scale (Karasar, 2006; İlhan, Sekerci, Sozbilir and Yıldırım, 2013). In the study, the steps mentioned above are taken into consideration and the actions of each stage are given below under separate titles.

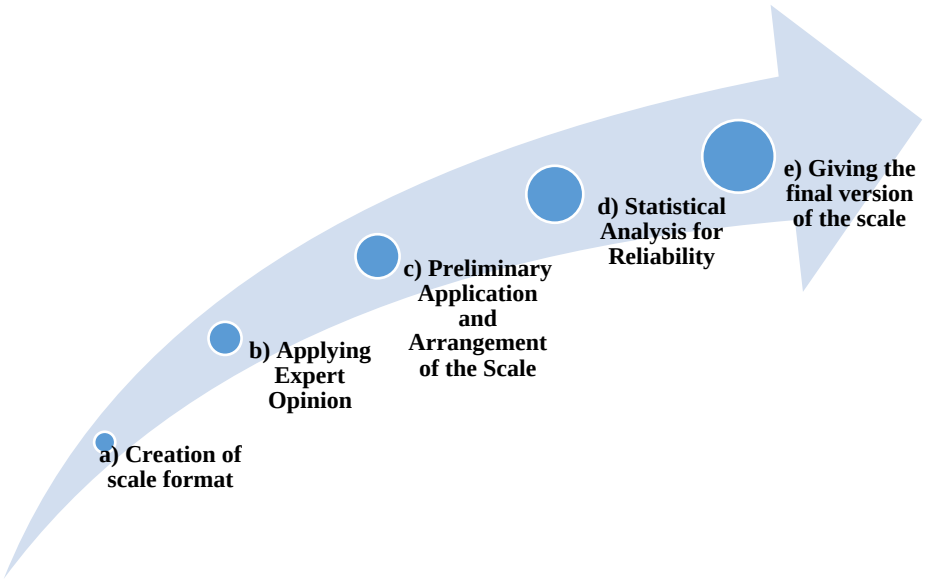

Figure 1. Scale development stages (İlhan, Sekerci, Sozbilir and Yıldırım, 2013)

Creation of Scale Format

After forming the theoretical framework of the scale, it was tried to decide which format the scale would be. Teachers' teaching style scale was formed in a 5-point Likert type format. The degree of teachers' participation in statements was determined as ‘Strongly Disagree (1), Disagree (2), Undecided (3), Disagree (4), Strongly Agree (5)’. Using the data obtained from the literature review, a pool of 44 items was created. The expression of 3 scale items is negative (K/T 9, K/T 10, K/T 13) and the others are positive (see Table 3). The items in the prepared draft form are given in Table 3. The scale form is divided into three categories: visual, auditory, kinesthetic/tactile. In the code column in Table 3, "V" is used for visual, "A" audio, "K/T" kinesthetic/tactile items.

Applying Expert Opinion

Expert opinion was taken to evaluate the scale items' ability to reveal the teaching styles of teachers. Help was received from two academicians and teachers from 4 different branches. One-to-

one interviews were conducted with the instructors, and the opinions of the instructors were taken on issues such as the form and content of the items, the intelligibility of the expressions, question formats. In addition, some corrections were made by taking into consideration the opinions and suggestions of 40 teachers participating in the pilot application. In the light of the application, evaluations were made and the scale items were finalized with expert suggestions.

Preliminary Application and Arrangement of the Scale

The pilot application of this study was applied to 40 teachers who are working in a private school in Hatay in the 2017-2018 academic year between 09.04.2018 and 13.04.2018.

Statistical Analysis for Reliability

In the validity and reliability phase of this study, Cronbach's Alpha value was used for internal consistency taking into consideration the observations, teacher feedback and expert opinions in the pilot study. Cronbach's Alpha explains the correlation value due to the correlation between the items (Durmus, Yurtkoru, and Zinko, 2016, p. 89). When the relationship level in the literature is examined, if the Cronbach's Alpha value is 0.70 and above, it is accepted that the scale is reliable, and because of the low number of items, this limit can be accepted as 0.60 and above (Durmus, Yurtkoru and Cinko, 2016: 89). After entering the data into the SPSS program, randomly selected scale items were checked by another researcher to confirm whether or not the data was missed by the researcher. Then, the consistency of the results of the two researchers was examined.

Giving the Final Version of the Scale

The scale developed in this study was finalized as a likert-type scale consisting of 14 items in total by conducting expert opinions, validity and reliability analyses. The expression of all items in the scale is positive. Although there were negative items in the draft scale of 44 items, negative statements were eliminated as a result of the analysis.

Data Analysis

The data obtained in this study were analyzed by factor analysis. The purpose of the factor analysis is to determine the construct validity of the scale and to decide the items to be included in the scale. Factor analysis is performed in two ways: exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). CFA evaluates a priori hypotheses and is largely driven by theory while EFA is to identify factors based on data and to maximize the amount of variance required (İlhan, Sekerci, Sozbilir, and Yıldırım, 2013). In scale development studies, the general structure of EFA is first revealed, CFA is made to the newly arranged structure obtained after necessary adjustments. The purpose of the CFA is to test the accuracy of the structure obtained (Bryman and Cramer, 1999; Buyukozturk, 2010). If the structure obtained by EFA is a structure that is sharply drawn in the literature, then the data can be made directly by CFA and validation can be made. As a matter of fact,

Simsek (2007) argues that in the literature, if only a study with both EFA and CFA has been performed, it is sufficient to perform only CFA and Yılmaz (2004) as an example. In this study, 45 English teachers who are working in Anatolian high school were studied and the scale was gathered under four factors. According to Simsek (2007), these factors are more commonly used in the literature and it is more appropriate to perform CFA than to find these factors again. Visual, auditory and tactile / kinesthetic factors are included in the scale of teaching styles in this study and these factors are widely used in the literature. Therefore, it was considered that it would be more appropriate to perform CFA without the EFA on the data collected. The CFA for the developed target scale was performed with the Analysis of Moment Structures (AMOS) program. In structured CFA analysis, it is possible to correct the relationship between computer and multimedia by eliminating it (Yıldız and Bulut, 2015) and adjust the filtered analysis in this chamber of the scale according to the substances related to the substance or the items in the CFA analysis.

Scoring of the scale

Since the scale is of 5-point likert type, minimum 1 and maximum 5 points are obtained. After developing the scale, the experiment was conducted by the researchers and it was clarified how the score obtained from the scale should be interpreted. For example, Burcu teacher's application results are as follows:

Table 2. Teaching Style Scale Teacher Application Data Findings

	Kinesthetic/ tactile				Visual							Auditory					
Teacher	M1	M 2	M1 4	Ort	M 1	M 2	M 3	M 4	M 12	M 13	Ort	M 1	M 2	M 4	M 8	M 11	Ort
Burcu	5	5	4	4.6	5	5	5	5	5	5	5.0	4	4	3	4	4	3.8

Table 2 shows that Burcu teacher's tactile/kinesthetic average is 4.6, the visual average is 5.0 and the auditory average is 3.8. This means that the scores obtained in this scale will be interpreted according to the weighted total score in each category. Here, it can be interpreted that the Burcu teacher received a certain score in the entire category, but the visual style was higher than the others.

Findings

In this part of the study, analyses are explained in detail. Firstly, findings about scale items and then findings about validity and reliability are given in order.

Findings Related to Scale Items

Table 3 shows the items included in the 44-item draft scale of the Teaching Style Scale (TSS).

Table 3. Items included in the draft scale of the TSS.

Code	Draft Scale Item
V 1	I underline what I read.
V 2	I like to use colored pencils when taking notes.
V 3	I take notes while listening to an important topic.
V 4	I use keywords while I am talking about a subject.
V 5	When there's a concept I have to remember, I hang it where I can see it all the time.
V 6	I use my own symbols instead of the symbols used by others.
V 7	While solving the problem, I write the required and given things with colored pencils.
V 8	I'm sensitive about my students using colored pencils.
V 9	When entering a new topic, I first read the topic to my students.
V 10	I try to keep the lecture notes concise and concise.
V 11	I understand what I read better than what I hear.
V 12	While I am teaching, I transform knowledge and concepts into symbols and pictures.
V 13	I illustrate the complex subject and draw appropriately.
V 14	I need eye contact when communicating.
V 15	When I read aloud, what I read is more in my mind.
V 16	While I am describing a new topic, I use related symbols.
V 17	I like to plan in my daily life and while I am lecturing.
V 18	I like to organize my responsibilities myself.
K/T 1	While I am teaching, I prefer to stand up and move my whole body.
K/T 2	When I build a model, I like to disassemble and move parts.
K/T 5	I prefer to sit in the front row while listening to the conference.
K/T 3	I enjoy sharing the extra information I know about the subject with my students.
K/T 4	I like printing and bold writing.
K/T 6	I move my body when expressing myself (hands, arms…).
K/T 7	I like walking back and forth while lecturing.
K/T 8	I can sit at the desk, on the floor, on the couch or anywhere I think I am comfortable when I lecture.
K/T 9	I don't prefer to sit in a chair while I am lecturing.
K/T 10	Sitting in the same place for a long time distracts me.
K/T 11	It is said that I am a talkative person at school and in my daily life.
K/T 12	I enjoy teaching.
K/T 13	Playing with my pen does not distract me while I am lecturing.
K/T 14	I often use facial expressions in lectures.
A 1	I like to listen to music.
A 2	What I hear remains more in my mind.
A 3	It is said that I speak harmoniously.
A 4	I understand what I hear better than what I read.
A 5	Instead of reading the subject, I prefer to listen to my students.
A 6	When communicating, I can understand the other person without the need for eye contact.
A 7	I often repeat a concept that should be remembered.
A 8	I read the subject aloud while repeating the subject.
A 9	I can easily distinguish between human voices.
A 10	I describe concepts in melodies that I invented.
A 11	I read the question aloud while solving the problem
A 12	I like to make voice recordings.

When table 3 is examined, there are 18 visual, 12 auditory and 14 kinesthetic/tactile items. The CFA results of the scale developed in this study are shown in Figure 2 and table 4.

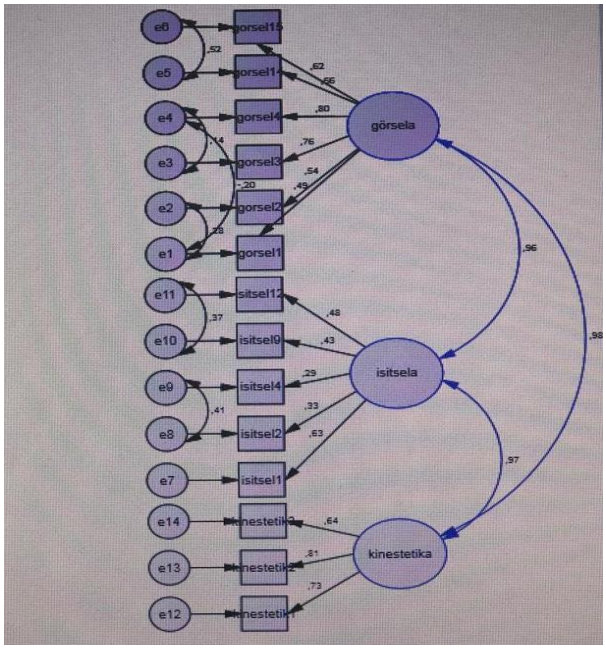

Figure 2. AMOS data analysis

According to Figure 2, there are 3 factors in total: tactile / kinesthetic, auditory and visual categories. There are 6 items under visual factor (V1, V2, V3, V4, V12, V13), 5 items under auditory factor (A1, A2, A4, A8, A11) and 3 items under tactile/kinesthetic factor (K/T1, K/T2, K/T14). The results of the AMOS analysis in Figure 2 are given in Table 4 and Table 5.

Table 4. AMOS analysis values in the scale

Code (Order no)	Factor loading (λ)	t	R^2
V 1 (2)*	.62	11.5	.52
V 2 (3)	.56	11.5	.52
V 3 (4)	.80	11.5	.44
V 4 (5)	.76	11.1	.44
V12 (11)	.49	9.9	.14
V 13 (12)	.54	10.5	.29
A1 (8)	.48	10.5	.29
A 2 (9)	.43	7.5	.37
A 4 (10)	.29	6.5	.37
A 8 (13)	.33	9.3	.41
A 11 (14)	.63	10.3	.41
K/T 1 (1)	.64	10.3	.63
K/T 2 (7)	.81	18.9	.81
K/T 14 (6)	.73	14.8	.79

* The numbers in parentheses are the order numbers in which the items are included in the final scale.

Table 5. CFA result of teaching style scale

Model	χ^2 /sd	RMSEA	CFI	NNFI	NFI	GFI	RMR
	218.081/68=3.20	.06	.95	.93	.97	.95	.04

In the DFA analysis, fit indices were examined and modifications were made between the items in visual factor 15, 14, 4, 3, 1, and 2, and 12, 9, 4 and 2 items in the auditory factor. Chi-square

statistics show a perfect fit if $\chi 2$ / df <2 and an acceptable fit if $\chi 2$ / df <5 (Erkorkmaz, Etikan, Demir, Ozdamar and Sanisoglu, 2013). Therefore, this result is acceptable. RMSEA = 0.06, CFI = 0.95, NNFI = 0.93, NFI = 0.97, GFI = 0.95. In the interpretation of the values, the study by Meydan and Sesen (2015, pp. 32-34) was taken as reference. It is acceptable values of 0.8 and above for Goodness of Fit Index (GFI); 0.95 and above for Comparative Fit Index (CFI). Root Mean Residual (RMR) and *Root Mean Square Error of Approximation* (RMSEA) indicate that values less than 0.05 or 0.05 are excellent and values up to 0.08 are acceptable. However, it is stated that it is weak for values of 0.10 and above. The Non-Normed Conformity Index (NNFI) describes the perfect fit for values of 0.95 and higher and shows good fit for values of 0.90 and higher. As a result of these data, it can be said that the values in the table are acceptable.

Validity and Reliability Findings

Cronbach's Alpha explains the correlation value due to the correlation between the items (Zinc, 2016, p. 89). This adjustment is done to determine the level of the relationship between the substances and the factors. While this correlation level is considered to be reliable in cases where Cronbach's Alpha value is 0.70 and above, this limit can be accepted as 0.60 value and above due to the low number of some scale items (Cinko, 2016, p. 89). The table on the reliability of the scale is given below (Table 6).

Table 6. Results of reliability analysis

N	%	Cronbach Alpha	N of Items
605	100	.877	14

When Table 6 is examined, it is seen that the reliability coefficient of the scale is 0.877. At the same time, the reliability of the factors included in the scale was calculated and these values are given in Table 7.

Table 7. The results of the reliability analysis of the factors

Factor	Cronbach Alpha	N of Items
Visual	.816	14
Auditory	.760	14
Kinesthetic/tactile	.646	14

See that Table 7, it is seen that the reliability of the visual category items is 0.816, the auditory category items are 0.760 and the kinesthetic/tactile items are 0.646. It can be said that these values are at an acceptable level.

Conclusion

In this research, a scale was developed for teachers' teaching styles. The scale obtained is a total of 14 items. There is no reverse item on the scale and each item has a maximum of 5 and a minimum of 1 point. The scale, which has a total of 3 factors, consisting of tactile/kinesthetic, auditory

and visual categories, consists of 6 items under visual factor, 5 items under auditory factor and 3 items under tactile/kinesthetic factor. Namely, each factor is represented by at least 3 items. The reliability coefficient of the scale was found to be 0.877. The reliability coefficients for the sub-factors are 0.816 for visuality, 0.760 for auditory and 0.646 for kinesthetic. This result shows that the scale is reliable.

As a result, the determination of the teaching styles of the teachers is of great importance for the planning, structuring and development of the education to be carried out. In this study, teacher styles were studied, and a scale was developed to help reveal styles. Findings of validity and reliability of the scale show that teachers can be used to determine their teaching styles. Moreover, there is no branch distinction for teachers. Since the scale is developed on teachers, if it is to be used outside this group, validity and reliability studies must be done again.

Proposal

During the process, it was noticed that the teachers did not have enough information about the subject. However, considering the effect of determining styles on student achievement, seminars or activities can be organized to raise teachers' awareness about styles.

In our country, it is seen that the scale development studies conducted for teaching styles are few. Scales can be developed for scale development studies for teaching styles. It is seen in the literature that learning styles contribute to students' academic studies.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Appendix 1.

No	ÖĞRETME STİLİ ÖLÇEĞİ	Kesinlikle katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Kesinlikle katılıyorum
1.	Ders anlatırken ayağa kalkmayı ve tüm vücudumu hareket ettirmeyi tercih ederim.	O	O	O	O	O
2.	Okuduklarımın altını çizerim.	O	O	O	O	O
3.	Not alırken renkli kalemler kullanmayı severim.	O	O	O	O	O
4.	Önemli bir konuyu dinlerken not alırım.	O	O	O	O	O
5.	Ders anlatırken konu ile ilgili anahtar sözcükler kullanırım.	O	O	O	O	O
6.	Ders anlatırken sık sık mimik kullanırım.	O	O	O	O	O
7.	Model inşa edeceğim zaman parçaları söküp takmayı ve onları hareket ettirmeyi severim.	O	O	O	O	O
8.	Müzik dinlemeyi severim.	O	O	O	O	O
9.	İşittiklerim daha çok aklımda kalır.	O	O	O	O	O
10.	Okuduğum şeylere göre duyduklarımı daha iyi anlarım.	O	O	O	O	O
11.	Ders anlatırken bilgi ve kavramları sembol ve resimlere dönüştürürüm.	O	O	O	O	O
12.	Karmaşık konuları anlatırken uygun şekilde çizimler yaparım.	O	O	O	O	O
13.	Konuyu tekrar ederken yüksek sesle okurum.	O	O	O	O	O
14.	Problem çözerken soruyu yüksek sesle okurum.	O	O	O	O	O