Adaptation of the Good Teaching Scale into Turkish: Validity and Reliability Study

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Article Info	ABSTRACT
	This study aimed to adapt the "Good Teaching Scale" (GTS) developed by Alhija (2017) to Turkish and to test its validity and reliability. The original form of the scale consisted of 5 sub-dimensions and a total of 35 items. The study data were collected from 491 students who were enrolled in postgraduate programs at a higher education institution in Turkey. In order to adapt the scale to Turkish, the language validity was verified, and then Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were performed with the data collected from two different sample groups for the construct validity of the GTS-Turkish version. The Cronbach's Alpha and the composite reliability coefficient were calculated to test internal consistency reliability. Results of the EFA showed that the items of the GTS translated into Turkish were collected in a 5 sub-dimensional structure, as in the original scale which explained 59.25% of the total variance. The results of the CFA showed that the GTS had good fit indices for the five-factor model. The Cronbach Alpha reliability coefficient was found as .905, and the composite reliability value as .872. The Cronbach's Alpha reliability coefficients of sub-dimensions of GTS-Turkish version were found to vary between .796 and .841. Reliability and validity results indicate that the Good Teaching Scale-Turkish version, which consists of 35 items and five sub-dimensions, is a valid and reliable instrument for measuring university students' perceptions of good teaching and the perceived characteristics of good teaching in higher education.

INTRODUCTION

Although there has been research on the phenomenon of good teaching, initiatives on how teaching can be made better, more qualified and of higher quality and excellence have always attracted attention. There has been a growing interest in knowing what contributes to good teaching and how. What is meant by "excellence" in teaching? What is good or effective teaching? How can quality in teaching be defined? An extensive literature exists around these questions that seek to develop a common understanding of what constitutes goodness, excellence, effectiveness, or quality in teaching (Serbati et al., 2020). However, a clear and agreed-upon consensus on the definition and functionalization of these concepts has still not been achieved (Alhija, 2017; Serbati et al., 2020).

Recent years have witnessed dramatic changes in the nature of teaching. Participation rates in education are on the rise, which raises diversity in terms of both the programs offered and the student population. Classes cater to a wide variety of students who demand quality teaching. Therefore, educational institutions are more interested in improving teaching and increasing the quality of teaching than ever before (Biggs, 2011). As the definition of good teaching depends on characteristics such as the type of the subject, class size, student ability, and assessment practices, it may not be possible to achieve consensus on the definition. This is mostly due to the complex nature of teaching, the heterogeneity of approaches, and the need to discuss the role of educational institutions in society (Serbati et al., 2020). However, in order to make a definition of "good" teaching, it is necessary to suggest a point of view towards the phenomenon. For example, Brew (2013), who offers a perspective on good teaching, draws attention to the fact that good teaching can be achieved by integrating research and teaching practices. Brew notes that improving students' learning experiences can be achieved by promoting a culture of inquiry.

The Phenomenon of "Good" Teaching

In its broadest sense, the concept of teaching is categorized in two directions, namely teacher-centered/content-oriented and student-centered/learning-oriented. A teacher-centered/content-oriented approach perceives teaching as the transfer of knowledge (Kember & Kwan, 2000). Knowledge is seen as being transferred from an expert teacher to an inexperienced learner, and the task of the teacher is to pass the knowledge across (Biggs, 2012). The student-centered/learning-oriented approach, on the other hand, perceives teaching as facilitating learning (Kember & Kwan, 2000) and sees it as bringing about a conceptual change in students' understanding of the world. What matters is not what teachers do, but what students do to achieve understanding (Biggs, 2012). Therefore, the most important way to improve and make teaching effective is to shift the focus from the teacher to the student (Biggs, 2011).

In the phenomenon of good teaching, the concept of "good" refers to a teaching quality that is more than adequate, if not exceptional or excellent in most cases. "Good" is a scale point often used to indicate an expected level of performance in the learner's assessment. (Pratt, 2002). The quality of teaching is associated with learning outcomes. Therefore, good teaching supports and helps students learn at a high level of quality (Parpala & Lindblom-Ylänne, 2007). Good teaching focuses on the relationship between students' study processes and the structural aspects of their learning. Students' learning processes encompass three independent dimensions, each of which has a cognitive (strategic) and emotional (motivational) component. These are using, internalizing, and achieving (Biggs, 1979).

In a study they conducted, Marton and Säljö (1976, as cited in Biggs, 2012) gave students a text to read and informed them that they would be asked questions about this text. The students gave two different kinds of answers to the questions. The first group learned by anticipating questions, concentrating on the facts and details that could be asked, that is, they made a superficial attempt to learn. The second group, on the other hand, tried to understand what the author was trying to convey. In order to be able to make an interpretation, they went below the surface level of the text, i.e., they made a significant effort to learn. To achieve results, students may use learning activities that are cognitively

lower than necessary. This is a superficial attempt at learning. Alternatively, students can use appropriate high-level activities to achieve results, which is a deeper attempt at learning. Therefore, good teaching eliminates the aspects that encourage "superficial approaches" to learning and prepares students to use "deep learning" approaches more easily (Biggs, 2012; Kember & Kwan, 2000).

Good teaching can be explained by associating it with individual differences among students. In other words, the active participation of students in the learning process differs from their academic orientation and commitment to learning. Therefore, good teaching is to enable other students to use the cognitive processes (questioning, estimating, producing solutions, etc.) that students with more academic goals spontaneously use to achieve the intended learning outcomes (Biggs, 2011). This can be achieved by improving students' social skills, including their ability to answer questions about a particular field and solve problems, enabling their active participation in the lesson, including taking an interest and having fun, obeying classroom rules, and behaving pro-socially in the classroom (Jacob et al., 2017).

On the other hand, the different perspectives developed on teaching provide a framework for what good teaching could be. (1) In the transmission perspective, the function of teaching is to efficiently and effectively convey to students the knowledge and ways of thinking in the text or in the teacher. (2) In the developmental perspective, teachers should know how their students think about content or study and what they believe. Thus, students' ways of thinking can be transformed into better and more complex ways of thinking and reasoning. (3) In the nurturing perspective lies the belief that when the student's self-concept is threatened or diminished in any way, learning will be hindered, diverted, or completely stopped. Therefore, the desired learning outcomes can be achieved by learners who believe in the power of their own actions and are self-confident. An environment of care and trust must be created in teaching. (4) In the social reform perspective, the ultimate goal of teaching is to bring about social change rather than just individual learning. The object of change is collective rather than individual. Teaching is seen as a tool for social change (Pratt, 2002). In this respect, in order for good teaching to take place, teachers should provide cognitive challenges, monitor learning processes, offer individual help, manage time and organize the learning process effectively (Jacob et al., 2017).

Another issue related to the phenomenon at hand is the dimensions of good teaching. The first of these is the dimension of "teaching practice". In this dimension, what is at the center of teaching is to develop students' expertise in the subject, to implement interaction, and to provide diversity in teaching methods. The second is the dimension of the "teacher's role," in which it is important to inspire students and be an expert in one's field. Thirdly, in the dimension of "student's role", the student should be motivated to learn and actively process the information in his/her mind. Other dimensions are the educational context (students' learning basic knowledge and skills), the atmosphere (a classroom climate that encourages students to ask questions), and the physical environment (Parpala & Lindblom-Ylänne, 2007). At this point, student and teacher dimensions in good teaching should conceptually match each other. Providing a cognitively active education (teaching input) should result in students' academic skills attaining desired levels (learning output) while managing the classroom effectively (teaching input) should result in students' appropriate social behavior (learning output); also, providing a supportive climate (teaching input) should encourage positive teacher-student relationships (learning output) (Jacob et al., 2017).

What can be called "good" teaching is not dominated by a single view of learning or teaching (Pratt, 2002). As a matter of fact, the phenomenon of teaching can be explained using qualitatively different approaches. Some of these approaches are: the teacher-centered approach, which aims to convey information to students; the teacher/student interactive approach, which aims to have students acquire the concepts of the discipline, and the student-centered approach, which aims for a conceptual change in the students. As we progress from the first approach to the last approach, qualitative differences are observed in the learning processes. For example, the first approach is teacher-centered

and aims to transfer knowledge in the learning process, whereas the last approach is student-centered and focuses on a conceptual change in the learning process. What the student does and learns is more important than what the teacher does or teaches. Self-learning is encouraged in good teaching (Trigwell et al., 1999). Therefore, good teaching should be creative, student-centered, encouraging, interesting, adaptable, and compelling (Ruzgar, 2021). On the other hand, Chickering and Gamson (1987), who examined research on teaching and learning, drew attention to the principles to be considered in good teaching practices. According to them, good teaching should develop cooperation among students, cover different abilities and learning styles, encourage contact between students and teachers, promote active learning, provide quick feedback, complete teaching tasks in good time, and meet high expectations.

The Current Study

Another important issue with good teaching is how to adequately measure what is defined as "good" (Devine et al., 2013). The measurement procedures involve observing a quality and describing the observation result (Turgut, 1983). In teaching, measurement is used to determine the extent to which a program, application, or student possesses a particular quality or feature (Kan, 2007). During teaching, problems may arise due to the program, the physical, psychological, or social environment of the learning environment, teaching methods, or the profiles of the students. These problems should not be ignored in order for the teaching to be implemented in a "good" manner, and the understanding of solving problems by following the examples provided should be abandoned. Realistic determinations should be made about the problems, and new and progressive solutions should be developed. At this point, the most important factor in solving problems is detecting the problems correctly and revealing them. Therefore, it is important to measure the quality, standard, or effectiveness of teaching practices in an education that is defined as "good" (Yılmaz, 1998). In order to increase the standard, excellence or quality in teaching, there is a need for research to determine the basic criteria that form the essence of "good" teaching. Determining these criteria will contribute to the development of curricula, the organization of learning-teaching activities, the evaluation of learning outcomes, the improvement of learning environments, and student development.

When the relevant literature is examined, a great majority of previous research has been conducted on the subject of "good" teaching, which can be associated with different concepts such as effective teaching, quality in teaching, and excellence in teaching (Biggs, 2011; Brew, 2013; Chickering & Gamson, 1987; Devine et al., 2013; Jacob et al., 2017; Parpala and Lindblom-Ylänne, 2007; Pratt, 2002; Serbati et al., 2020). Likewise, various assessment tools are seen in the related literature for measuring perceptions, attitudes, or practices towards good teaching (e.g., Alhija, 2017; Roy et al., 2013). When the national literature is examined, on the other hand, only a few scale development studies are observed that measure the affective awareness levels of university students about teaching (Duman & Yakar, 2017), the use of effective teaching strategies by teachers (Cücük et al., 2018), the teaching competencies of instructors (Doğanay et al., 2021) and the teaching skills of classroom teachers (Kandemir & Kıran, 2021). These studies are assessment tools that measure awareness about teaching and the teaching competencies or skills of the instructors who perform the teaching. However, no assessment tool has been found in the national literature that measures the perceived characteristics of good teaching. Therefore, the fact that there is not yet an assessment tool in the national literature to measure different aspects such as the quality, standard, or effectiveness of good teaching can give an idea about the importance and justification of this study. In this context, the aim of this research is to adapt the Good Teaching Scale developed by Alhija (2017) to Turkish. The scale measures perceptions about the multifaceted nature of good teaching, including the sub-dimensions of "goals to be achieved", "long-term student development", "teaching methods", "relations with students", and "assessment qualities."

METHOD

Research Design

In this study, which was carried out with the quantitative survey method, the Good Teaching Scale developed by Alhija (2017) was adapted to Turkish. Quantitative survey research is used to collect data from a large number of respondents about an object of exploration (Filipov, 2019). The quantitative survey research is considered as a primary method to administer and evaluate the new instrument or instruments (May, 2001).

Research Sample

The population of the study consists of 1419 postgraduate students enrolled in the field of education sciences in a higher education institution in Turkey. The sample included a total of 491 postgraduate students, 270 male (54.98 %) and 221 female (45.01 %) currently enrolled in the fields of curriculum and instruction, primary school education, preschool education, psychological counseling and guidance, and educational administration during the 2021-2022 academic year. The convenience sampling method was used in the selection of the participants. Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted for the construct validity of the Good Teaching Scale. EFA and CFA were performed with the data collected from two different samples.

The First Sample

The first sample, in which EFA was conducted, was selected from 285 postgraduate students who were studying in an education program at a higher education institution. Of the participants, 153 (53.68 %) were male and 132 (46.31 %) were female.

The Second Sample

The second sample, in which CFA was performed for the construct validity of the Good Teaching Scale, consisted of a total of 206 postgraduate students enrolled in a higher education, of whom 108 were male (52.42 %) and 98 (47.58 %) were female.

Instrument

The Good Teaching Scale

The Good Teaching Scale (GTS) was developed by Alhija (2017) to measure the good teaching perceptions of students studying in higher education or educators working in educational institutions. In order to ensure the validity of the scale, Alhija piloted the assessment tool on a sample group of 25 students studying at a higher education institution. The original scale includes items that set the perceptions of good teaching behaviors and consists of 35 items in total. All of the statements on the scale are positive, and there is no reverse-scored item on the scale. The items are grouped under 5 sub-dimensions representing various aspects of good teaching. These dimensions are (1) "goals to be achieved" (5 items), (2) "long-term student development" (8 items), (3) "teaching methods" (14 items), (4) "relations with students" (4 items) and (5) "assessment qualities" (4 items). The scope of the scale is based on the relevant literature on different aspects of good teaching. On the scale, the participants are asked to rate the relative importance they attach to each item on a 5-point Likert-type scale as "1=Of least importance", "2=Of low importance", "3=Of moderate importance", "4=Of high importance" and "5=Of highest importance". The scores that can be obtained from the scale vary between 35 and 175. The scale yields scores for the total score (perception of good teaching) and sub-dimensions. The higher the score, the higher the degree of perceptions regarding the characteristics of good teaching. An increase in the scores obtained from the dimensions in the GTS shows that the perception of the related dimension is higher.

The factor structure of the original GTS was tested with CFA by Alhija, who had developed the instrument. The results of the CFA confirmed the 5-factor model of the scale [(χ^2 = 1632.98, sd = 1430,

p< .05), CFI = .94, GFI = .95, SRMR =.050, RMSEA = .040). The CFA results showed that the scale validated the factor structure of good teaching as conceptualized, and was consistent with good teaching ideas defined in the relevant literature (Alhija, 2017; Biggs, 2011). The factor loadings of the items of the original scale ranged from .34 to .78. In addition, it was determined that the correlations between the dimensions of the GTS were positively correlated and between moderate and high levels p<.01.

Table 1. *Factors (Sub-dimensions), items, and cronbach alpha coefficients of the original Good Teaching Scale*

Sub-Dimension (Factor)	Items	Cronbach's Alpha
1. Goals to be achieved	1, 2, 3, 4, 5	.61
2. Long-term student development	6, 7, 8, 9, 10, 11, 12, 13	.82
3. Teaching methods	14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27	.82
4. Relations with students	28, 29, 30, 31	.74
5. Assessment qualities	32, 33, 34, 35	.68

In Table 1, the sub-dimensions of the original scale, the items in each dimension, and the Cronbach's Alpha (internal consistency) reliability coefficients for these dimensions are given. The Cronbach's Alpha obtained in the analysis of the reliability of the scale was found to be .61 for the "goals to be achieved" dimension, .82 for the "long-term student development" dimension, .82 for the "teaching methods" dimension, .74 for the "relations with students" dimension and .68 for the "assessment qualities" dimension (Alhija, 2017).

Obtainment of permission to adapt the scale

Dr. Fadia Nasser-Abu Alhija, who had developed the original scale, was contacted via e-mail in order to adapt the GTS to Turkish. The adaptation process was initiated after receiving Alhija's e-mail that confirmed and welcomed the adaptation of the scale into Turkish.

Data collection

Data of this study were collected from participants in the classroom setting in the spring semester of the 2021-2022 academic year. The administration of the instrument took place in a time period of 5-10 minutes. All study data were included in the process of analysis, because there were no missing ones among the data collected from a total of 491 participants.

Adaptation of the scale to Turkish

The process of the GTS adaptation consists of the following steps: 1) obtaining the permission to adapt the scale from the author who developed the scale, 2) adapting the scale to the target language, 3) piloting the adapted scale, 4) conducting the validity analysis of the adapted scale, and 5) performing the reliability analysis of the adapted scale. "Translation" and "adaptation," two concepts that are often confused in literature, are different from each other. Translation is only one of the stages in the adaptation process and includes linguistic conversion from one language to another. Adaptation is a much more comprehensive concept and requires consideration of the cultural, psychological, and linguistic differences of the scale to be adapted (International Test Commission [ITC], 2018). In this study, two methods in the literature were used in the process of adapting to Turkish the Good Teaching Scale, whose original form was in English, in terms of cultural and linguistic characteristics. The first is "forward translation" and the second is "back translation" (Durak & Karagöz, 2021).

Forward translation of the scale

At this stage, the original scale is translated from the source language to the target language by at least two experts who know both the source language and the target language. Then these translations are compared and a form is created to reflect a common opinion. In this context, all the items of the English form of the original GTS instrument were translated into Turkish by five faculty members who worked in the departments of English language education, testing and evaluation, curricula and

teaching, guidance and psychological counseling, and social sciences education and knew the English language at an advanced level. A common Turkish form was created by comparing the scale items obtained from these experts.

Back Translation of the Scale

Next, the items of the scale translated into the target language are translated into the original language of the scale by other translators, and these translations are compared to obtain a form in the original language that reflects the translators' consensus. Then, the similarity of the scales is checked by comparing this form, obtained by the back translation method in the original language, with the scale form in the original language. In this respect, the Good Teaching Scale, which was translated into Turkish, was given to another group of three people who had a sound knowledge of English, and these experts were asked to translate the scale from Turkish into English, the original language of the scale. Then, the original expressions of each item and the expressions resulting from this translation were compared one-to-one. As a result of the comparison, it was found that the translation and the original scale were generally equivalent to each other, and thus the translation process was completed. Finally, the obtained scale items of the Turkish version were examined by two experts in the field of Turkish education in terms of intelligibility, meaningfulness, and clarity, and in this way, the scale was given its final form.

Pilot Study of the Adapted Scale

After the translation procedures, English and Turkish forms were administered to 30 currently undergraduate students studying in the English language teaching department at a higher education institution in order to determine the linguistic equivalence of the Good Teaching Scale and the clarity of its items. Moreover, the statement "If there are any items that you have difficulty understanding, please specify" was added to the end of the scale forms in order to receive feedback on the intelligibility of the translations and to identify the problematic items. As a result of the feedback, it was found that the items translated into Turkish provided clear instructions for the participants and defined the perception of good teaching. In addition, the correlation analysis that was conducted revealed a positive correlation between the original form and the adapted form of the GTS ($r=.74$, $p<.001$). Thus, the Turkish form of the 35-item scale was created, which was prepared to test the psychometric properties of the scale through the actual application (Appendix-1).

Data Analysis

In the study, the construct validity, item discrimination, and reliability of the data collected from the Good Teaching Scale form adapted to Turkish were tested within the framework of its psychometric properties. An EFA was conducted to ensure the construct validity of the Good Teaching Scale, which was adapted to Turkish. EFA analysis was performed with the SPSS program. On the other hand, CFA was performed to examine the similarity of the factor structure of the Turkish version of the scale with the factor structure of the original scale. The AMOS program was used for CFA, and the fit of the model that emerged in EFA was tested. In order to evaluate this fit, goodness of fit indices such as chi-square ($\chi2$), Goodness of Fit Index (GFI), Incremental Fit Index (IFI), Comparative Fit Index (CFI) and Root-Mean-Square Error of Approximation (RMSEA) were examined (Brown, 2006; Schermelleh-Engel et al., 2003). To determine the reliability of the scale, Cronbach's Alpha coefficient, composite reliability (CR) coefficient, and item-total correlation were performed. In order to measure to what extent the items were able to represent the scale, item-total correlation scores were determined at the sub-dimensions level. In addition, the scores of the lower 27 % and upper 27 % groups were compared to test item discrimination.

Ethics

This study was conducted in accordance with the ethics committee decision dated 08.04.2022 and numbered 2022/146 of the Social Sciences and Humanities Scientific Research Ethics Committee of the University of Necmettin Erbakan.

FINDINGS

Validity Study

Exploratory Factor Analysis (EFA)

Principal component analysis and Varimax technique were used in Exploratory Factor Analysis (EFA). The Kaiser-Meyer Olkin (KMO) value and the Bartlett Test of Sphericity (Alpar, 2010; Çokluk et al., 2010) were used to determine the fit of the data set for factor analysis before the EFA. For this purpose, KMO and Bartlett sphericity tests were performed. It is recommended that the KMO test be above .60 and close to 1 and that the Bartlett sphericity test be significant for the adequacy of the sample size. According to the results of the analysis, the KMO value of the scale was found to be .79 and the Bartlett sphericity test result was found to be significant ($\chi2$ = 6362.336, sd = 253, p< .001). In the light of these results, it can be stated that the data set is fit. In the EFA, the lower limit of the factor loads of the items was taken as .32 in line with the relevant literature (Büyüköztürk, 2014). In factor analysis, factors with an eigenvalue above 1 were accepted as the basis (Tabachnick et al., 2007).

Factor analysis result showed that the Good Teaching Scale had a 5-dimensional structure with an eigenvalue above 1 for 35 items, as in its original form. These five dimensions explained 59.25 % of the total variance. Researchers state that when the variance explained is between 40 % to 60 % in multi-factor designs, it is sufficient in the field of social sciences (Çokluk et al., 2010; Tavşancıl, 2014). Accordingly, the variance rate determined here is a sufficient rate for multi-factor designs. A total variance was explained by the first dimension with a rate of 42.03 %, by the second sub-dimension with 21.65 %, by the third sub-dimension with 15.53 %, by the fourth sub-dimension with 11.12 % and by the fifth sub-dimension with 8.25 %. It was found that the factor loads of all the items in the scale ranged from .45 to .81. The five dimensions in the scale explained 58.7 % of the total variance. Table 2 shows the EFA results, factor loading values of the items and common variances.

Table 2. *Results of the factor analysis of the Good Teaching Scale of Turkish version*

Item	Dimension					Common Variance
	Factor Loads					
	1	**2**	**3**	**4**	**5**	
Item 1	.770					.617
Item 2	.670					.481
Item 3	.815					.504
Item 4	.737					.677
Item 5	.803					.712
Item 6		.494				.716
Item 7		.558				.745
Item 8		.608				.664
Item 9		.511				.565
Item 10		.506				.686
Item 11		.741				.589
Item 12		.587				.593
Item 13		.552				.551
Item 14			.666			.756
Item 15			.585			.689
Item 16			.533			.612
Item 17			.499			.554
Item 18			.457			.666

Item 19	.426		.548
Item 20	.541		.717
Item 21	.603		.736
Item 22	.516		.748
Item 23	.594		.751
Item 24	.558		.632
Item 25	.478		.745
Item 26	.512		.777
Item 27	.633		.632
Item 28		.491	.528
Item 29		.524	.705
Item 30		.487	.647
Item 31		.543	.533
Item 32		.458	.669
Item 33		.585	.586
Item 34		.614	.548
Item 35		.547	.554

Table 2 shows that the Turkish version of the GTS instrument consists of 35 items and 5 dimensions. The structure obtained from the Turkish form as a result of the factor analysis is similar to the structure in the original form of the scale. The first sub-dimension of the scale ("goals to be achieved") consists of items 1, 2, 3, 4 and 5. The factor loads of these items range from .53 to .67. The second sub-dimension (long-term student development) consists of items 6, 7, 8, 9, 10, 11, 12 and 13. The factor loads of these items range from .42 to .66. The third sub-dimension (teaching methods) consists of items 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26 and 27. The factor loads of the items in this dimension are between .75 and .53. The fourth sub-dimension (relations with students) consists of items 27, 28, 29, 30 and 31. The factor loads of these items vary between .55 and .66. Finally, the fifth sub-dimension ("assessment qualities") consists of items 32, 33, 34 and 35. It was found that the factor loads of the items in this dimension are between .75 and .53.

Confirmatory Factor Analysis (CFA)

The Confirmatory Factor Analysis (CFA) was performed in order to test, in the context of model fit indices, the suitability of the 5-factor structure of the GTS, which emerged as a result of EFA, and the results of the analysis were compared with fit indices and limit values. As the confirmatory factor analysis data set met the multivariate normal distribution assumption, it was performed using the maximum likelihood method (Meydan & Şeşen, 2011). CFA was conducted on the second sample of the study. CFA analysis was performed by using the AMOS program. The CFA results, which consisted of 35 items and 5 sub-dimensions, revealed that the χ^2 value (233.5147, p < .001) was significant and the χ^2/sd ratio (2.379) was lower than 5, but other fit indices (GFI = .86, IFI = .87, CFI = .88, RMSEA = .077, SRMR = .072) were not within acceptable limits (Hu & Bentler, 1999; Kline, 2011; Schermelleh-Engel et al., 2003), so it was decided that the scale did not have an acceptable fit level in its current form. For this reason, modification indices were examined among the items that were thought to contribute significantly to the model fit in order to improve the model. The error terms (error covariances) of the 11th and 12th items (e11 <--> e12) and 18th and 19th (e18 <--> e19) were modified in line with the suggestions for modification. Both modifications were made on items of the same dimension and assumed to measure similar phenomena. The results of CFA repeated after the modifications showed that the model goodness of fit indices (χ^2/sd = 1.98; IFI= .92; CFI= .93; RMSEA= .058; GFI= .92; SRMR= .061) were within the acceptable goodness of fit limits (Kline, 2011; Schermelleh-Engel et al., 2003). It was found that the modifications contributed significantly to χ^2. Confirmatory factor analyses indicated that 35 items with five factors were valid for the Turkish higher education school sample. The standardized regression loads for the model were found to be significant and ranged from .49 to .81 (p< .01). These values indicate that the items of the scale are a suitable

representative of the measured dimensions. The path diagram of the CFA for the construct validity of the Good Teaching Scale of Turkish form is given in Figure 1.
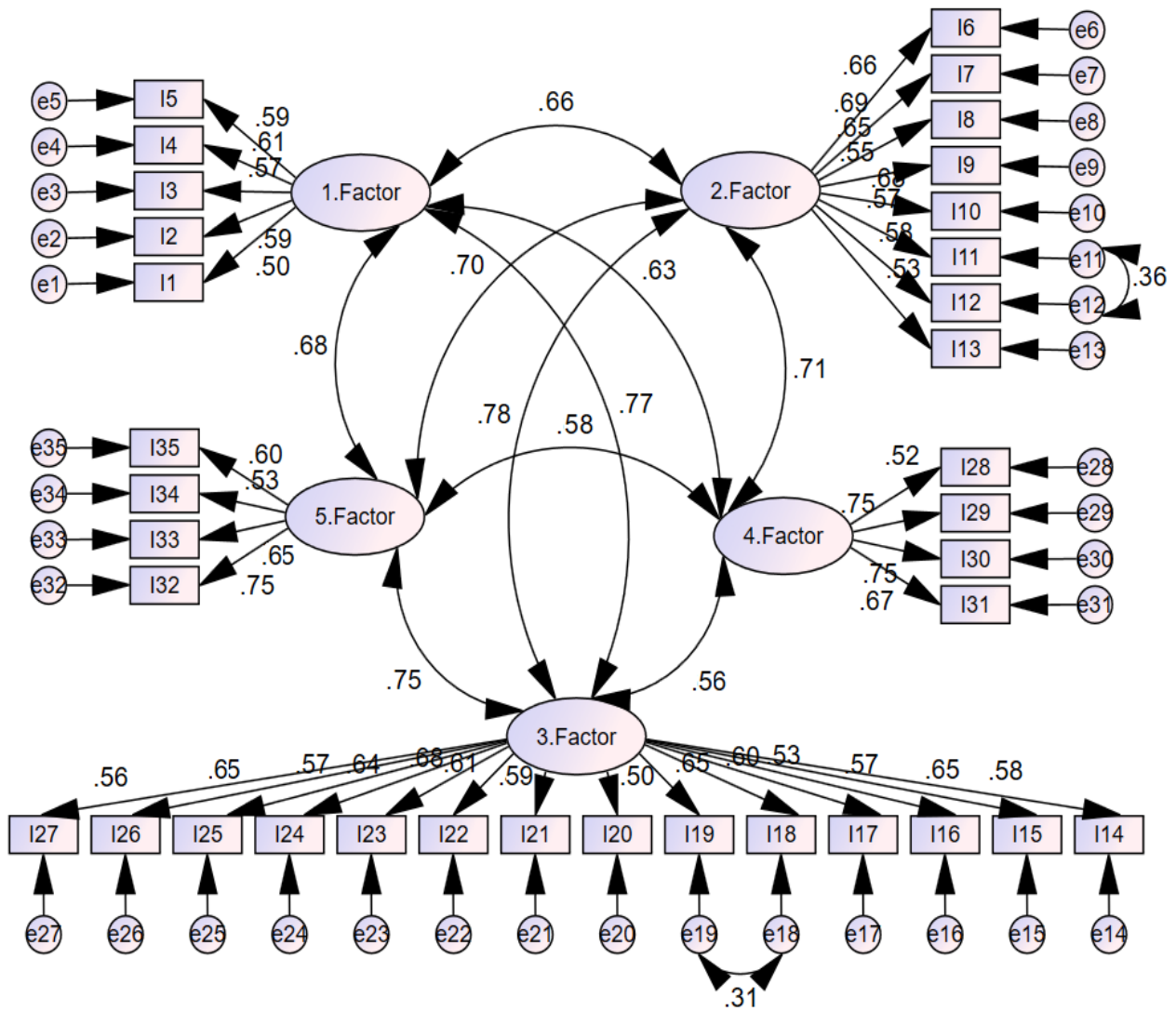

Figure 1. *Path diagram of the confirmatory factor analysis of the Good Teaching Scale of Turkish Version*

Findings Regarding Item Validity

Item-total correlations

Corrected item-total correlations were examined for item analysis of the GTS-Turkish form. The item-total correlation was examined to predict the sub-dimension total scores of the items in the GTS. In addition, independent sample t-test was performed between the lower group 27 % and the upper group 27 % scores regarding item discrimination. In Table 3, the item-total correlations of the scale and the t-test results regarding the difference between the lower 27 % and the upper group 27 % scores are given.

Table 3. *T-test values for the item-total correlation of the scale and the difference between the scores of the lower 27% and upper 27% groups*

Factor	Item	Item-Total Correlations	T (Lower 27 % And Upper 27 % Groups)
Goals to be achieved	Item 1	.65	23.35*
	Item 2	.77	37.45*
	Item 3	.60	24.01*
	Item 4	.71	28.60*
	Item 5	.60	29.89*
Long-term student development	Item 6	.54	25.22*
	Item 7	.70	17.44*
	Item 8	.76	12.56*
	Item 9	.63	18.74*
	Item 10	.51	26.74*
	Item 11	.72	17.50*
	Item 12	.60	26.85*
	Item 13	.68	21.20*
Teaching methods	Item 14	.67	14.56*
	Item 15	.62	32.01*
	Item 16	.44	18.85*
	Item 17	.69	21.55*
	Item 18	.72	25.45*
	Item 19	.60	20.81*
	Item 20	.75	22.60*
	Item 21	.65	19.89*
	Item 22	.59	17.22*
	Item 23	.67	29.44*
	Item 24	.72	23.56*
	Item 25	.67	26.19*
	Item 26	.56	19.89*
	Item 27	.71	31.57*
Relations with students	Item 28	.73	26.85*
	Item 29	.61	14.20*
	Item 30	.57	24.55*
	Item 31	.65	24.14*
Assessment qualities	Item 32	.70	33.85*
	Item 33	.64	23.45*
	Item 34	.72	10.42*
	Item 35	.55	22.99*

*$p<.05$

As seen in Table 3, the item-total correlations of the items in the scale ranged from .44 to .77. Researchers noted that an item-total score correlation coefficient of .30 and above indicates that the items have a good level of discrimination. Therefore, items can exemplify similar behaviors (Büyüköztürk, 2014; Field, 2005; Nunnally & Bernstein, 1994). The total scores obtained in the 5 dimensions of the scale and the item-total correlations between the items of the scale were between .60 and .77 in the first dimension (goals to be achieved), between .51 and .72 in the second dimension (long-term student development), between .44 and .75 in the third dimension (teaching methods), between .57 and .73 in the fourth dimension (relations with students), and between .55 and .72 in the fifth dimension (assessment qualities). The results suggest that items in the GTS-Turkish form have item consistency.

Discrimination Features of Items

In the scales formed by a multidimensional structure, it is necessary to determine the lower and upper groups for each dimension. As a result of this determination, the average item scores in the dimensions should be compared (Büyüköztürk, 2014). According to the results of the t-test analysis conducted to see the significance of the differences between the total scores of the lower 27 % and upper 27% groups for all items in the GTS, it was determined that there was a statistically significant difference between the lower and upper groups (p< .01). This significant difference shows that all the items in the scale have the desired level of discrimination of items in the scale (Erkuş, 2014). In addition, the correlation values between the sub-dimensions of GTS-Turkish form were also calculated. First, it was checked whether the values obtained from the data were in a normal distribution. Kurtosis and skewness values were examined. The kurtosis and skewness values of the sub-dimensions of the scale were: -.296, -.478 for the "goals to be achieved" sub-dimension; -.901, .369 for the "long-term student development" sub-dimension; -.729, -.413, for the "teaching methods" sub-dimension; -.113, .396 for the "relations with students" sub-dimension; -.545, -.389, for the "assessment qualities" dimension, and -.2131, -.678 for the total scale, respectively. As these values are between -1.5 and +1.5, they indicate that the variables have a normal distribution (Tabachnick et al., 2007). Results of the correlation analysis are given in Table 4.

Table 4. *Correlations between the factor scores of the Good Teaching Scale*

Factor	1	2	3	4	5
1. Goals to be achieved	-				
2. Long-term student development	.625**	-			
3. Teaching methods	.603**	.701**	-		
4. Relations with students	.512**	.587**	.707**	-	
5. Assessment qualities	.519**	.577**	.664**	.603**	-

**p< .01

As seen in Table 4, there is a positive correlation between the sub-dimensions of GTS-Turkish form. All correlation coefficients are significant at the p<.01 level. The correlations between the sub-dimensions of the scale show that it exhibits the multifaceted nature of good teaching and significantly confirms the relationships between the sub-dimensions of good teaching.

Reliability Analysis

The Cronbach alpha internal consistency coefficient and the composite reliability (CR) coefficient were calculated to provide evidence for the reliability of the scores obtained from the Good Teaching Scale adapted to Turkish. Field (2005) states that the most widely used internal consistency coefficient for scales is Cronbach's Alpha. The Alpha coefficients and composite reliability (CR) coefficients for both the whole of the scale and the sub-dimensions are given in Table 5.

Table 5. *The reliability coefficient of the scale and its sub-dimensions*

Factor	Cronbach's Alfa	Composite Reliability
Goals to be achieved	.817	.854
Long-term student development	.838	.806
Teaching methods	.796	.822
Relations with students	.841	.841
Assessment qualities	.805	.799
Total	.905	.872

The Cronbach's Alpha coefficient for the sub-dimensions of the scale is .817 in the first sub-dimension (goals to be achieved), .838 in the second sub-dimension (long-term student development), .796 in the third sub-dimension (teaching methods), .841 in the fourth sub-dimension (relations with students), and .805 in the fifth dimension (assessment qualities t). It is seen in the calculation made for the whole of the scale that the Cronbach's Alpha internal consistency coefficient is ,905. The composite reliability values for the sub-dimensions are; .854 (goals to be achieved), .806 (long-term student development), .822 (teaching methods), .841 (relations with students), .799 (assessment qualities), and .872 (the whole scale), respectively. These values are above the .70 value accepted in the literature (Driver & Maslakçı, 2020; Hair et al., 2010). When the coefficients related to reliability are evaluated together, it can be concluded that the GTS-Turkish version has good internal consistency and is reliable.

DISCUSSION, CONCLUSION AND SUGGESTIONS

In this study, the validity and reliability calculations were made of the Turkish-adapted version of the Good Teaching Scale developed by Alhija (2017), which measures higher education students' perceptions of good teaching. An adaptation study was conducted using all the items in the original scale. The original form of the scale consists of five sub-dimensions and 35 items: "goals to be achieved", "long-term student development", "teaching methods", "relations with students" and "assessment qualities".

In the study, the Good Teaching Scale was adapted to Turkish, taking into account the framework recommended by ITC (2018). First, a language equivalence study was performed within the scope of adaptation of the original scale to Turkish. The scale was translated into Turkish by experts in the field of English language. The resulting Turkish form was translated back into English and expert opinion was obtained. As a result of the adaptation studies, the equivalence of the Turkish and English forms of the scale was confirmed. EFA and CFA were conducted to obtain evidence for the construct validity of the scale, which was adapted to Turkish after language equivalence studies. As a result of the EFA, a 5-factor construct was obtained, explaining 59.25 % of the total variance, as in the original construct of the scale. There are different opinions about the variance ratio explained in the literature. While Büyüköztürk (2014) stated that the explained variance rate should be at least 30 %, Scherer et al. (1988) defined values of 40 % and above as acceptable for the explained variance. Accordingly, it can be said that the rate of explained variance obtained as a result of this study is good. The EFA results showed that factor loads of all the items of the scale were above the baseline limit of .32 (Tabachnick et al., 2007).

In order to test the factor structure defined in the scale as a result of EFA, CFA was performed and according to the results obtained, it was determined that the model fit indices were not sufficient. It was tried to improve the fit indices with the covariance connections in accordance with the modification suggestions. According to the results of the renewed CFA, the fit indices were at an acceptable level. Thus, the CFA results of the fit indices supported the 5-factor structure obtained from the EFA results. Corrected item-total correlations were examined for item consistency of the scale and it was seen that the values obtained were between .43 and .73. This finding showed that each item had a value in the desired range and was at an acceptable level (Streniner et al., 2015). In order to determine whether the items in the scale measured the characteristics that were intended to be measured, item-total score

correlations and the mean scores obtained from the upper 27 % and lower 27 % groups were calculated, and these values were compared (Büyüköztürk et al., 2015). The differences between the means of the lower and upper 27 % groups of the scale were found to be statistically significant. This result shows that the items in the scale have the desired discrimination level (Erkuş, 2014). The item-total score correlations range from .44 to .77. According to these values, it can be said that the power of the items to represent the scale is sufficient (Büyüköztürk, 2014). It was determined that the correlation values between the scale factors were in the range of .512 and .707 and there were positive and significant (p<.01) correlations between the sub-dimensions (Pallant, 2013). According to experts, the correlation values between the scale sub-dimensions should be below .90 in order to avoid multiple correlation problems among the scale sub-dimensions. (Field, 2005; Kline, 2011; Tabachnick et al., 2007). Therefore, it can be said that such a situation did not exist among the scale factors.

The reliability of the scale adapted to Turkish was tried to be determined by calculating the Cronbach's alpha coefficient and the composite reliability coefficient. The Cronbach's alpha (internal consistency) coefficient for the entire Turkish version of the scale was found to be .905. The Cronbach's alpha coefficients of the sub-dimensions were .817 for the first sub-dimension; .838 for the second sub-dimension; .796 for the third sub-dimension, .841 for the fourth dimension and .805 for the fifth dimension. In addition, the composite reliability values of the sub-dimensions in the scale were above .70. In the literature, it is recommended that the internal consistency coefficient be above .70 (Büyüköztürk, 2014). A reliability coefficient of .70 and above in scale development or adaptation studies indicates that the said assessment tool is reliable (Fraenkel & Wallend, 2012; Pallant, 2017; Robinson et al., 1999; Tezbaşaran, 1997). Therefore, it can be said that the internal consistency and composite reliability coefficients of the Turkish version of the scale are within acceptable limits. In this respect, it can be said that the Turkish-adapted Good Teaching Scale can be used to measure the perception levels of higher education students regarding the characteristics of good teaching on the strength of the evidence for its validity and reliability.

The search for good teaching and the determination of the good teaching concept in educational institutions is an important issue. The fact that the validity and reliability of the Good Teaching Scale were found to be sufficient in the findings of this study will enable investigation of perceptions regarding the characteristics of good teaching in various institutions in Turkey. There are serious gaps in the literature regarding assessment tools that can measure good teaching. For example, Alhija (2017) investigated university students' conceptions about good teaching and tried to determine whether there was a relationship between these concepts and students' background characteristics. The results indicated that in good teaching, the students perceived the assessment dimension as the most important component of good teaching, whereas they perceived the long-term student development as the least important. In addition, it was found that there were significant differences in students' perceptions of good teaching in terms of gender and the department where education was received.

There is a need for a valid and reliable assessment tool that can categorize and measure the perceptions of education stakeholders regarding the basic criteria that constitute the essence of good teaching. Due to the absence of a valid and reliable Good Teaching Scale developed or adapted to Turkish in the literature, it is expected that the Good Teaching Scale adapted to Turkish in this study will fill an important gap in the relevant literature. It is thought that the Good Teaching Scale will contribute to the relevant literature by serving as a source for future research on this subject. Since both the original form and the adaptation study of the scale were applied to higher education students, they will be able to present a perspective to the instructors about the quality, standard, or effectiveness of teaching practices in both undergraduate and graduate education. On the other hand, it is expected that the scale will provide a useful framework for what constitutes the essence of "good" teaching. The use of the scale in different studies and samples may contribute to the understanding of the psychometric properties of the scale. It is thought that this scale can be used to determine the perceptions of higher

education students, instructors, or teachers about good teaching.

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APPENDIX-1: İyi Öğretim Ölçeği Türkçe Versiyonu (Good Teaching Scale Turkish Version)

1	2	3	4	5				
En düşük önemdedir	Düşük önemdedir	Orta önemdedir	Yüksek önemdedir	En yüksek önemdedir				

İYİ ÖĞRETİM MADDELERİ	1	2	3	4	5
1. Ders konularına yönelik motivasyon ve ilgiyi artırma	1	2	3	4	5
2. Ders konularını öğrenmeyi sağlayacak pratik bilgiler verme	1	2	3	4	5
3. Ders konularıyla ilgili temel bilgiler verme	1	2	3	4	5
4. Ders konularıyla ilgili bilgilerin genel bir çerçevesini tanıtma	1	2	3	4	5
5. Ders konularıyla ilgili bilgi ve araştırma yeteneği kazandırma	1	2	3	4	5
6. Yaratıcı ve yenilikçi düşünme becerileri kazandırma	1	2	3	4	5
7. Bağımsız ve nesnel düşünme yeteneği geliştirme	1	2	3	4	5
8. Bağımsız öğrenme becerisini geliştirme	1	2	3	4	5
9. Eğitimli kişinin sahip olması gereken bilgiyi kazandırma	1	2	3	4	5
10. Farklı fikir ve görüşlere açıklığı teşvik etme	1	2	3	4	5
11. Sözel becerileri geliştirme (örneğin, kanıtlar oluşturma ve sunma)	1	2	3	4	5
12. Yazma becerileri geliştirme	1	2	3	4	5
13. Topluluk karşısında sunum yapma becerilerini geliştirme	1	2	3	4	5
14. Açık ve anlaşılır bir şekilde öğretme	1	2	3	4	5
15. Öğrencileri verimli tartışmalara dâhil etme	1	2	3	4	5
16. Ders sırasında düzen ve disiplini sağlama	1	2	3	4	5
17. İlginç ve etkileyici bir ortamda öğretimi gerçekleştirme	1	2	3	4	5
18. Öğretme ve öğrenme için ders saatini verimli kullanma	1	2	3	4	5
19. Derste olumlu öğrenme ortamı oluşturma	1	2	3	4	5
20. Derse aktif katılımı sağlamak, farklı kaynakları okutmaktan daha değerlidir	1	2	3	4	5
21. Dersler ve uygulamaları (gezi, gözlem, laboratuvar, atölye vb.) arasındaki uyumu sağlama	1	2	3	4	5
22. Öğrencilerin ders sırasında soru sormalarına izin verme ve uygun dönütler verme	1	2	3	4	5
23. Ders sunumlarını ve diğer öğretim araçlarını etkili kullanma	1	2	3	4	5
24. Öğrencilerin derste daha fazla düşünmeleri için çaba sarf etme	1	2	3	4	5
25. Derste derinlemesine öğrenmenin gerçekleşebilmesi için zaman ayırma	1	2	3	4	5
26. Öğrencilerin çoğunluğuna göre seviyeyi ve öğretim yöntemlerini uyarlama	1	2	3	4	5
27. Dersi öğrenmeye katkı sağlayacak şekilde çevrimiçi web uygulamalarıyla entegre etme	1	2	3	4	5
28. Öğrenciler ile sürekli iletişim kurma (e-posta, ders dışı görüşme)	1	2	3	4	5
29. Öğrencilerin öğrenmelerini destekleme (teşvik etme, yardımcı olma ve rehberlik etme)	1	2	3	4	5
30. Öğrencilerin öğrenmesi ile ilgili empati kurma ve özen gösterme	1	2	3	4	5
31. Öğrencilerin ihtiyaçlarını dikkate alma (örneğin gereksinimler, testler)	1	2	3	4	5
32. Ödevleri, projeleri ve sınavları objektif ve adil bir şekilde değerlendirme	1	2	3	4	5
33. Öğrencilere sınavları ve projeleri hakkında faydalı geri bildirimler verme	1	2	3	4	5
34. Ders içeriği ile ilgili bilgileri ölçecek sınavlar uygulama	1	2	3	4	5
35. Sınavların bilginin ötesinde analitik düşünme, uygulama ve akıl yürütme gibi becerileri ölçmesini sağlama	1	2	3	4	5