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THE SCALE DEVELOPMENT STUDY ON FOREIGN LANGUAGE SPEAKING SELF-EFFICACY PERCEPTION[i]

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Abstract
The aim of this study is to develop a five point likert scale called 'Foreign Language Speaking Self-Efficacy'. A draft scale which includes 38 items has been given to 493 students studying in Afyon Kocatepe University, Foreign Languages School in Turkey. The principal component analysis has been employed in factor analysis of the scale to examine the structural validity. As a result of the analysis 14 items have been excluded and remaining 24 items have been grouped under 3 factors. The total explained variance is 57,428. The Cronbach's Alpha value is .944 that indicates the internal consistency of the scale. Furthermore, item-total and item-remaining correlations are significant ($p<.001$) and item discrimination tested by t-test to the bottom and top 27% is also found significant. After exploratory factor analysis, confirmatory factor analysis has been carried out and goodness of fit indexes are seen either acceptable or close to the acceptable values (RMSEA= 0,74; CFI=0,89; RMR=0,61; GFI=0,82; AGFI=0,78; NNFI=0,87).

Keywords: foreign language, speaking, self-efficacy, scale

1. Introduction

Self-efficacy is defined as personnel view and judgments about how well a person can organize and perform the necessary actions to overcome an event that may be encountered in the future (Bandura, 1977; Senemoğlu, 1998). Bandura (1994) states that self-efficacy is necessary to organize and carry out a specific behaviour to reach a target. The self-efficacy comes from four sources and Bandura (1977) names them as mastery experience, vicarious experiences, verbal persuasion and emotional and physiological

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states. Bandura (1997) states that it contributes to self-efficacy level when students visualize themselves accomplish a task effectively and successfully. On this basis, Maddux (2000) argues one more source for self-efficacy and names it as imaginal experiences. It is believed that people accomplishing a task successfully get a higher self-efficacy. People can also enhance their self-efficacy when they observe their peers accomplishment a task and develop belief about their own capability on that task. Moreover, feedbacks, encouragement and admiration from a teacher, a friend, a mentor or a family member can assist someone to develop self-efficacy. Psychological state or mood of someone can also directly affect the self-efficacy belief of someone (Raoofi, Tan and Chan, 2012).

It is indicated that the people with high self-efficacy are more self-consistent to reach the target and restore their feeling easily after making a mistake (Yanar and Bumen, 2012) and self-efficacy guides the individuals in reaching the target (Aksu, 2008). It is one of the most essential requirements that students must have high motivation for being successful in education. Altunçekiç, Yaman and Koray (2005) emphasize that there is a positive correlation between academic achievement, motivation and self-confidence. Zimmerman (2000) noted that self-efficacy increases motivation and self-confidence in individuals and, therefore, affects academic achievement.

A language consists of four skills as reading, writing, listening and speaking. However, it depends on communicating with a native speaker whether someone know that language or not. It is expected from the foreign language learners to be able to perform communication skills, which they have achieved in their mother tongue, in the foreign language they learn, as well. It is the most demanding skill to communicate verbally on the target language for students. Those who develop their writing and reading skills in foreign language learning and use these two skills in an effective way but cannot effectively communicate with foreigners are defined as 'Mute Learner' (Wolff, 2010). One of the main reasons why 'Mute Learner' cannot use a language as an oral communication tool is that the low of motivation and self-efficacy level. Aydın (2001) stated that people who learn foreign languages increase their anxiety levels by their inadequate perceptions and that it will affect their achievements negatively (cited form Yanar and Bümen, 2012). It is also inevitable that the low self-efficacy perception will lead the person to failure as it increases the level of anxiety.

As stated in the studies on self-efficacy level and language learning there is a strong relation between these two variables. It is stated in the literature that (2009) there is a significant relation between students' listening skills and self-efficacy and (Rahimi and Abedini, 2009) and also language learning strategies (Magogwe and Oliver, 2007). Wong (2005) also states that low self-efficacy level is an important issue among ESL students. Thus, it is vital to determine the foreign language speaking self-efficacy of the students and develop ways to improve this ability. Accordingly, this study aims to develop a scale to be used to examine the level of the foreign language speaking self-efficacy.

2. Method

This part explains the sample, development of the scale and data collection and analysis.

2.1. Sample

The sample of the study includes 493 undergraduate students 295 (59,8%) of whom are female and 198 (40,2%) are male and who studies in Afyon Kocatepe University, Foreign Languages School in 2014-2015 academic year. It is stated in the literature that the sample for a scale development study should be at least fivefold of the variables (Bryman and Cramer, 2001). So it has been decided that the sample meets the requirement to conduct the study.

2.2 The Development of the Scale

The scale development process includes the review of the literature, examination of the existing scales on self-efficacy, creating the item pool, field experts' control and the exploratory and confirmatory factor analysis.

2.2.1 Exploratory Factor Analysis

Literature has been reviewed, the European Language Portfolio has been examined and the points to be considered while writing the items have been determined before creating an item pool. Furthermore, 'Which skills do you think required for being proficient at speaking a foreign language?' has been asked to 16 students, selected randomly, studying at Afyon Kocatepe University Foreign Languages School, and 'Which skills do you think required for a student to be accepted proficient at speaking a foreign language?' has been asked to three foreign language educators, one English teacher, one English lecturer, one English research assistant. Based on the data from these sources, 43 items related to speaking-self efficacy has been created. Afterwards, the items have been rated on the 5-point Likert type with the expressions 'Defines me completely', 'Defines me', 'Defines me partially', 'Not define me', 'Not define me completely'.

The draft scale has been presented to the expert opinion in terms of content validity and 5 items which have been found not related to speaking self-efficacy have been extracted from the scale. After the necessary corrections have been made, the draft scale has been applied to 23 students studying at Afyon Kocatepe University Foreign Languages School for a preliminary application. As a result of the preliminary application, the items on the draft scale have been rearranged according to the students' reactions and responses. The scale consisting of 38 items after the necessary corrections have been applied to 523 students studying at Afyon Kocatepe University Foreign Languages School, but only 493 of them have been evaluated as some of the students have not answer all the items.

The suitability of the data for factor analysis can be assessed by the Kaiser-Meyer-Olkin (KMO) coefficient and the Bartlett sphericity test. KMO and Bartlett test have been used to determine the suitability of the data obtained from the application of

the trial scale to factor analysis and it has been concluded that the data are suitable for the factor analysis (KMO= .938; Barlett sphericity= .000). As a result of the factor analysis performed on the data obtained after pilot application of the draft scale, 14 items have been excluded from the scale and a scale consisting of 3 sub-dimensions named 'Beginner, Intermediate and Advanced Level' with 24 items has been created. The Cronbach's Alpha value of the scale is .944 (α = .895 for factor 1, α = .862 for factor 2, α = .904 for factor 3).

Total variance explained by the scale has been given in Table

Table 1: Total variance explained table of foreign language speaking self-efficacy perception scale

	Initial Eigen Values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10,631	44,294	44,294	10,631	44,294	44,294	5,328	22,198	22,198
2	1,806	7,524	51,819	1,806	7,524	51,819	4,638	19,326	41,524
3	1,346	5,609	57,428	1,346	5,609	57,428	3,817	15,903	57,428
4	.975	4,062	61,489						
5	.857	3,572	65,061						
6	.820	3,418	68,479						
7	.755	3,147	71,626						
8	.688	2,868	74,494						
9	.625	2,604	77,098						
10	.595	2,481	79,579						
11	.575	2,396	81,975						
12	.508	2,118	84,093						
13	.488	2,033	86,126						
14	.417	1,738	87,864						
15	.398	1,656	89,520						
16	.371	1,546	91,066						
17	.351	1,461	92,528						
18	.342	1,425	93,953						
19	.289	1,202	95,155						
20	.250	1,145	96,300						
21	.266	1,108	97,409						
22	.232	0,965	98,374						
23	.198	0,825	99,199						
24	.192	0,801	100,000						

As shown in Table 1, 3 factors account for 57.428% of the total variance. Items, of which Eigen value (Initial Eigen value) is greater than 1.00, have been included in the scale.

Rotated component matrix Table of the scale has been given in the Table 2

Table 2: Rotated component matrix table of the foreign language speaking self-efficacy perception scale

	Components		
Items	**1**	**2**	**3**
Md2	.779		
Md4	.768		
Md5	.723		
Md1	.617		
Md3	.587		
Md22	.490		
Md19		.842	
Md20		.796	
Md17		.762	
Md16		.723	
Md18		.712	
Md21		.592	
Md12			.693
Md15			.680
Md11			.672
Md7			.664
Md8			.635
Md6			.622
Md9			.622
Md13			.583
Md14			.581
Md10			.570
Md24			.485
Md23			.476

As shown in Table 2, it has been concluded that 6 items are under the 1st factor, 6 items are under the 2nd factor and 12 items are under the 3rd factor. The factor loadings for 24 items in the scale range from .47 to .84.

Based on the content the items have and the literature review, the three factors that make up the scale named as beginner, intermediate and advanced, respectively.

The results of the item analysis of the scale have been given in Table 3.

Table 3: Item analysis of foreign language speaking self-efficacy scale

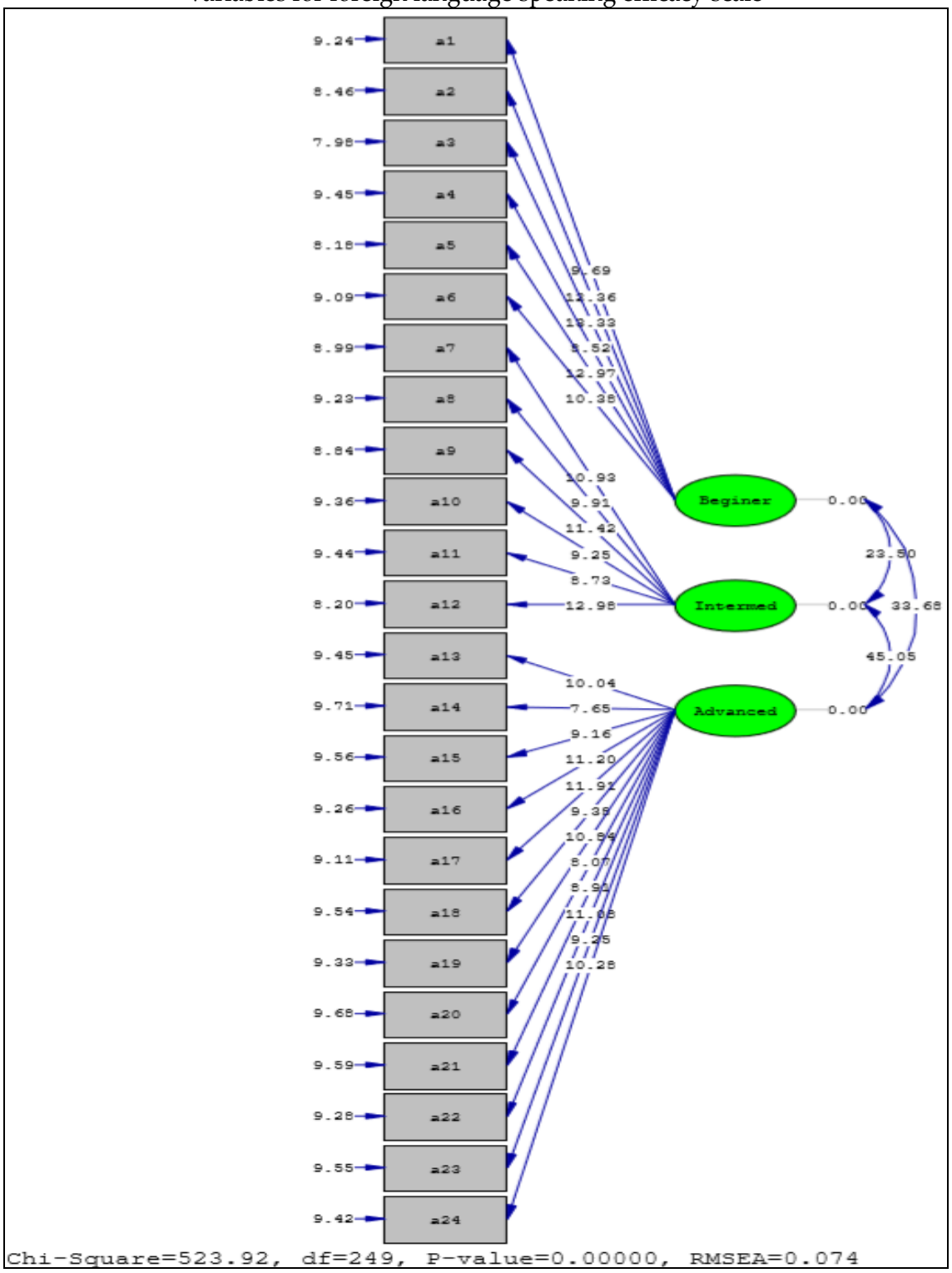
Items	Item total correlation	Item remaining correlation	t	p
Item 1	.609	.568	10,548	.000
Item 2	.690	.656	14,025	.000
Item 3	.713	.680	13,210	.000
Item 4	.569	.524	10,715	.000
Item 5	.742	.713	15,055	.000
Item 6	.718	.684	15,173	.000
Item 7	.685	.649	13,769	.000
Item 8	.653	.614	13,526	.000
Item 9	.702	.670	13,226	.000
Item 10	.629	.587	9,459	.000
Item 11	.597	.552	10,205	.000
Item 12	.770	.743	15,417	.000
Item 13	.653	.615	13,446	.000
Item 14	.552	.499	9,028	.000
Item 15	.621	.581	11,476	.000
Item 16	.694	.661	13,069	.000
Item 17	.729	.700	14,391	.000
Item 18	.622	.580	12,222	.000
Item 19	.714	.681	15,754	.000
Item 20	.578	.531	10,207	.000
Item 21	.606	.562	11,069	.000
Item 22	.709	.676	12,623	.000
Item 23	.643	.604	12,911	.000
Item 24	.658	.619	11,905	.000

As a result of the correlation analysis for item-total and item remaining, it has been concluded that there is a meaningful relation between all the items and the scale. The result of the independent t-test for the high group (27%) and low group (27%) has shown that each item has a meaningful and significant discrimination feature.

2.2.2 Confirmatory Factor Analysis

After the model of 'Foreign Language Speaking Self-Efficacy Scale' and its sub-dimensions, beginner, intermediate and advance have been created, the model has been tried to be confirmed by confirmatory factor analysis. The items for the beginner sub-scale are a1-a6, items for the intermediate sub-scale are a7-12 and the items for the advanced level are a13-a24. The subscale and the scale reliability coefficients of this model tested with DFA have been calculated. The path diagram of the 'Foreign Language Speaking Efficacy Scale' has been given in Figure 1.

Figure 1: The significance level of the latent variables' explanation rate on the observed variables for foreign language speaking efficacy scale



T values of the latent variables for explaining the observed variables are seen on the arrows. It is indicated that if t values exceeds 2.56, they are accepted significant at level of .01 (Çokluk, Şekercioğlu ve Büyüköztürk, 2014). As seen in the figure 1, all the parameter estimations are significant at the level of .01.

The error variances of the path diagram of 'Foreign Language Speaking Efficacy Scale' have been given in Figure 2.

Figure 2: The error variance of the path diagram of foreign language speaking efficacy scale

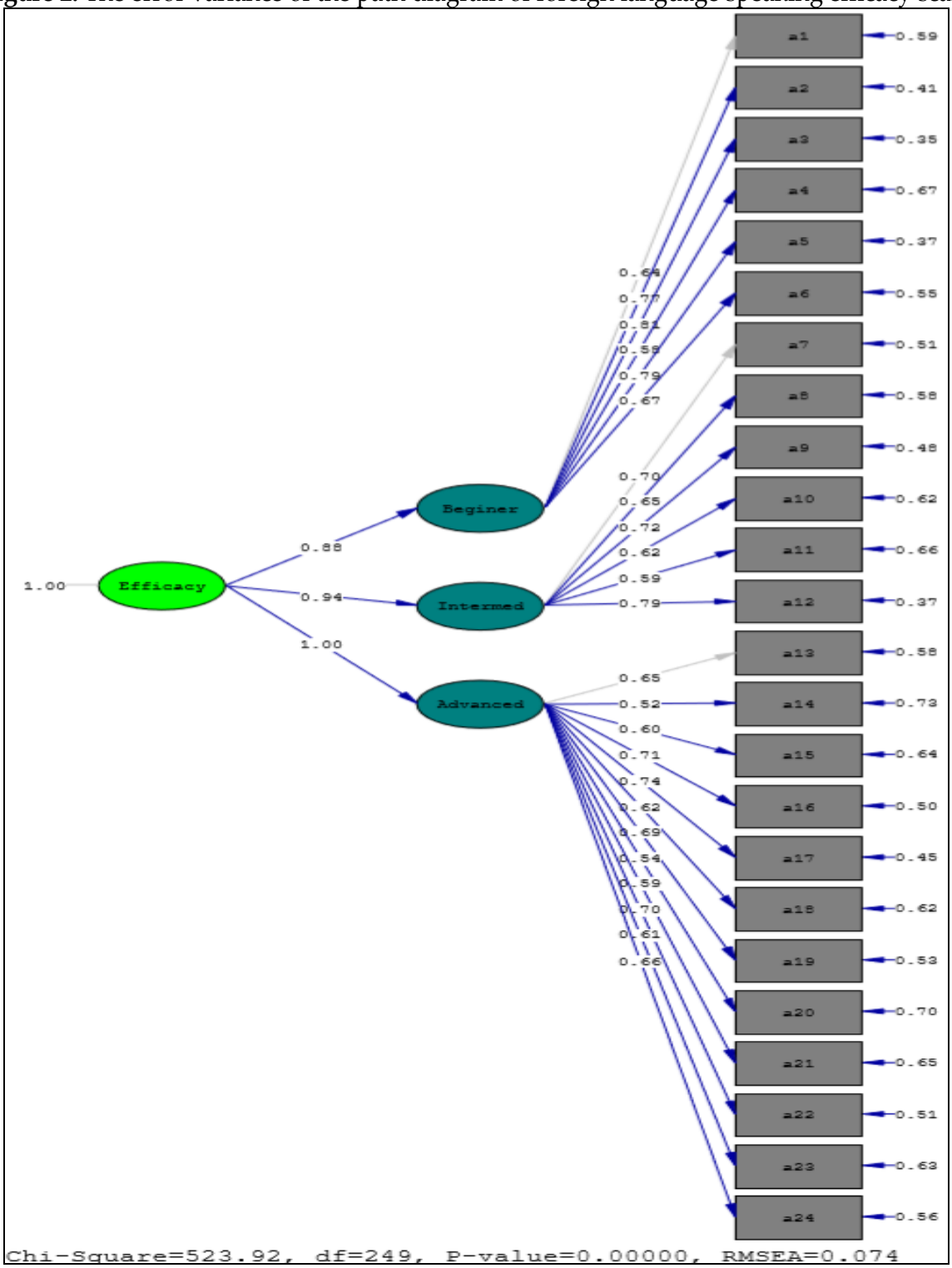


Table 4: CFA goodness of fit results of foreign language speaking efficacy

Fitness Indexes	Proposed Fitness Values	Criteria	Acceptable Criteria
$\chi 2$ /df	2,10	$0 \leq \chi 2$ /df ≤ 2	$2 < \chi 2$ /df ≤ 3
RMSEA	0,74	$0 \leq$ RMSEA $\leq .05$	$.05 <$ RMSEA $\leq .08$
Comperative Fit Index (CFI)	0,89	$.95 \leq$ CFI ≤ 1.00	$.90 \leq$ CFI $< .95$
RMR	0,61	$0 \leq$ SRMR $\leq .05$	$.05 <$ SRMR $\leq .10$
Goodness of Fit Index (GFI)	0,82	$.95 \leq$ GFI ≤ 1.00	$.90 \leq$ GFI $< .95$
Adjusted Goodness of Fit Index (AGFI)	0,78	$.90 \leq$ AGFI ≤ 1.00	$.85 \leq$ AGFI $<.90$
NNFI	0,87	$.95 \leq$ NNFI ≤ 1.00	$.90 \leq$ NNFI $< .95$

The results of the CFA fitness indexes are given in table 4. Root Mean Square Error of Approximation (RMSEA) is ,74; Comperative Fit Index is ,89; Root Mean Square Residual is ,61, Goodness of Fit Index is ,82; Adjusted Goodness of Fit Index is 0,78; Non-Normed Fit Index is ,87. Although the results do not show a perfect fit, some of the results of the fitness indexes are between the acceptable values.

3. Discussion and Conclusion

In the first phase of the study, a scale aimed to measure the foreign language speaking self-efficacy perception has been developed. Firstly, exploratory factor analysis has been employed for the process of the scale development. As a result of this analysis, it has been found out that the data are convenience for the exploratory factor analysis (KMO= .938, Barlett Sphericity = .000). Absolute value for the factor loading has been decided as .40 and the 14 items which do not meet the requirements has been excluded from the scale. It has been decided that the scale has composed of three sub-dimensions explaining the 57,428 % of the total variance. The first sub-dimensions of the scale, beginner, intermediate and advance, explains 44,294 %, 7,524 % and 5,609 % of the variance, respectively.

Item analysis has been made for the items decided to take place in the scale. As a result of the analysis, it has been concluded that all the items have a meaningful and significant relation with the total score of the scale at the level of 0.01. The Cronbach's Alpha value of the scale has been found as .944.

After the exploratory factor analysis, confirmatory factor analysis has been used to verify the model of the scale. As a result of this analysis, the fitness indexes are X^2/df = 2,10; RMSEA= .74; CFI= .89; RMR= .61; GFI= .82; AGFI= .78; NNFI= .87. It has been concluded that these values either between or very close to the acceptable criteria.

The scale has been studied on and with the students who study English as a foreign language. It is suggested that the scale can be used with the students studying a different foreign language.

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