

DEVELOPMENT OF A SCALE MEASURING ATTITUDES TOWARDS ENGLISH LESSON: A STUDY OF RELIABILITY AND VALIDITY

Ayşegül TAKKAÇ TULGAR¹

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Abstract

This study is purposed to conduct the validity and reliability analysis of The Attitudes towards English Lessons Scale (ATELES) which was developed with an aim to better understand the attitudes of high school students towards English lessons. 370 high school students in Erzurum, in 2016-2017 school year, participated in the study. Convenience sampling was used in the study. The factor structure of the scale was analyzed through Exploratory Factor Analysis and four dimensions (significance, knowledge, interest and avoidance) explaining the %64.55 of the total variance were obtained and the model fit indices were at a good level ($X^2/sd=2,93$, $RMSEA=.069$, $SRMR:.055$, $RMR=.046$, $NFI=.97$, $NNFI=.98$, $CFI=.98$, $IFI=.98$, $RFI=.97$, $AGFI=.86$, $GFI=.86$). The analyses of internal consistency, half-split and test-retest reliability were conducted to check the reliability of the scale and enough scores were reached for scale reliability. Taking the results into account, ATELES can be said to be a valid and reliable instrument to measure the attitudes of high school students towards English lessons.

Keywords: English lessons, attitude scale, validity and reliability

İNGİLİZCE DERSİNE YÖNELİK TUTUM ÖLÇEĞİ GELİŞTİRİLMESİ: GEÇERLİK VE GÜVENİRLİK ÇALIŞMASI

Öz

Bu araştırmanın amacı lise öğrencilerinin İngilizce derslerine yönelik tutumlarını belirlemek üzere geliştirilen İngilizce Dersine Yönelik Tutum Ölçeğine ait geçerlik

1 Dr. Öğr. Üyesi, Muş Alparslan Üniversitesi, Kazım Karabekir Eğitim Fakültesi, aysegultakkac@hotmail.com, ORCID: <https://orcid.org/0000-0001-6401-969X>.

ve güvenilirlik çalışmasını yapmaktadır. Çalışma grubu 2016-2017 eğitim öğretim yılında Erzurum'da eğitim gören, uygun örneklem yöntemiyle seçilmiş 370 lise öğrencisinden oluşmaktadır. Ölçeğin faktör yapısı açımlayıcı ve doğrulayıcı faktör analizi ile incelenmiş ve toplam varyansın % 64.55'ini açıklayan dört boyutlu bir yapı elde edilmiş ve bu yapının model uyumunun iyi düzeyde olduğu bulunmuştur ($X^2/sd=2,93$, $RMSEA=.069$, $SRMR:.055$, $RMR=.046$, $NFI=.97$, $NNFI=.98$, $CFI=.98$, $IFI=.98$, $RFI=.97$, $AGFI=.86$, $GFI=.86$). Ölçeğin güvenilirliğini belirlemek amacıyla yapılan iç tutarlılık, iki yarı ve test tekrar test güvenilirlik analizleri ölçeğin güvenilirlik açısından yeterli değerlere sahip olduğunu göstermiştir. Araştırmadan elde edilen bulgulara dayanarak, İngilizce Dersine Yönelik Tutum Ölçeğinin lise öğrencilerinin İngilizceye yönelik tutumlarını belirlemede kullanılabilecek güvenilirliği ve geçerliği sağladığı görülmüştür.

Anahtar Kelimeler: İngilizce dersleri, ölçek geliştirme, geçerlik ve güvenilirlik

Introduction

With the globalization of the world, it has become a necessity to be able to use at least one language besides the mother tongue. As English is the lingua-franca of the modern world, learning this language has gained increasing importance. Therefore, the investigation of the issues related to learning English has gained momentum in the field one of which is the study of attitudes of language learners towards English. Learners' attitudes towards particular courses are among the most significant factors affecting success in those lessons. So, this study is intended to contribute to the existing literature by developing a scale regarding high school students' attitudes towards English lessons.

As a common term mostly associated with psychology, attitude can be defined as the mental state involving feelings and beliefs which eventually influence human behavior (Latchanna and Dagnev, 2009). The combination of these beliefs and feelings play key roles in shaping the attitudes of learners towards learning. These beliefs can either promote or hinder learners' success in the process (Kazazoğlu, 2013). Taking language learning into consideration, it is essential to examine the attitudes of learners towards learning the target language, English in this case (Bartram, 2010; Gardner and Lambert, 1972; Lightbown and Spada, 2011). This focus can enable us to identify the potential problems and come up with practical solutions.

The review of relevant literature shows that there are some studies conducted in Turkey and abroad regarding learners' attitudes towards English. While some of them were carried out with university students (Gömleksiz, 2010; Hussein, Demirok

and Uzunboylu, 2009; Sadighi and Zarafshan, 2006), some were conducted with high school learners (Bilgin Cebeci, 2006; Gökçe, 2008; Yang & Lau, 2003). As this study was conducted with high school students, previous research with similar participant profiles can be briefly presented. In a Masters thesis, Bilgin Cebeci (2006) used the scale she developed herself and asked a group of vocational and technical high school students to provide answers. The results revealed that there was a statistically significant difference between female and male learners which was in favor of the female ones. However, there was not a significant difference regarding school types. The research conducted by Gökçe (2008) supported those of Bilgin Cebeci (2006) as it also showed that female learners had more positive attitudes when compared to male learners in learning English.

There are also some studies conducted abroad on students' attitudes towards English. In a study comparing the attitudes of learners before and after they study at university level, Yang and Lau (2003) followed 35 tertiary level students. The researchers found that the participants had positive attitudes towards learning English as they thought it is important to know the language. Mayrin (2006) carried out a study with ninth graders in Puerto Rico. The results obtained through observations, questionnaires and interviews showed that the participants had negative attitudes towards English as a course to be taken while they had positive attitudes towards English when they consider their life and career goals. The study shares the previous results as it also found that female students had more positive attitudes than their male friends.

In the light of relevant studies, this study is expected to contribute to literature by providing a new scale to be utilized in investigating the attitudes of high school students towards English lessons. Due to the increase in the realization of the importance of learning English in modern world, it is essential to understand learners' attitudes towards learning English to better frame the effects of attitudes on language success.

Methodology

Participants

As this study is based on scale development, different participant groups were formed through convenience sampling with high school students in the center of Erzurum in each phase of developing the scale. Bryman and Cramer (2001) suggest that the number of participants should be five or ten times of the number of items in the scale in factor analysis. Therefore, there were 370 participants in the study group. Considering study groups, it can be stated that the number of participants (n=370) was enough for validity and reliability analysis.

Survey Development Process and Data Analysis

In the process of developing ATELES, relevant literature was reviewed and a 42-item repository were formed. Linguistics experts and specialists in the field experts were consulted for the appropriateness and understandability of the draft form of the scale. In the light of the feedback, the items in the scale were revised and the first form of the scale was designed. The pilot study was conducted with 75 participants and total item correlation and Cronbach alpha value was found. Some items were revised and then rephrased. However, five items were omitted as they did not have enough consistency with the whole scale and had a below .30 total item correlation value. The final form of the scale consisted of 37 items and validity-reliability analyses were conducted. The missing value, extreme value, normality, linearity and multicollinearity analyses were conducted. The blanks in the data set within acceptable levels were filled with arithmetic means. The data obtained from some participants (16 in Exploratory Factor Analysis, 15 in Confirmatory Factor Analysis, 8 in criterion-related validity and 9 in reliability analyses) were also omitted as they had extreme values to affect the normality of the data set. The latent structure was analyzed through Exploratory Factor Analysis (EFA) and the model fit was analyzed through Confirmatory Factor Analysis (CFA). In CFA, multi-fit indices (RMR, RMSEA, SRMR, CFI) were used. In CFA, .90 was determined as the acceptable limit and $>.95$ as perfect fit limit. For RMSEA, SRMR and RMR, $<.08$ for the acceptable limit and $<.50$ for perfect fit limit was determined (Hu and Bentler, 1999; Marcoulides and Schumacher, 2001). The chi square value in CFA is also suggested to be under 3 (Marcoulides and Schumacher, 2001; Schumacher and Lomax, 2004).

Findings

Construct Validity

Exploratory Factor Analysis: In order to analyze the factor structure of ATELES, EFA was conducted. In EFA, the researcher, in the process of determining the items to be in the scale, paid attention that the item eigenvalues are at least 1.00, item factor load values are at least .30 in one factor and there should be at least .10 difference between the items with enough factor loads in two factors (Schriesheim & Eisenbach, 1995; Seçer, 2013). Besides, Robust Maximum likelihood and Direct Oblimin Rotation methods were used.

In EFA, with an aim to test the appropriateness of the data for factor analysis, KMO and Barlett tests were applied and KMO was found .963 and Barlett test χ^2 was found 6401,019 ($p < .001$). Table 1 shows the findings obtained through EFA.

Table 1: The factor loads, the variances explained by sub-dimensions and item analyses in ATELES

Item	1.Fac.	2.Fac.	3.Fac.	4.Fac.	Total Item Correlation
1	.50				,754
5	.54				,751
10	.62				,707
14	.69				,576
20	.84				,712
2		.79			,731
3		.81			,639
6		.73			,627
11		.61			,586
12		.67			,615
23		.75			,589
15			.48		,630
18			.72		,674
21			.49		,595
24			.43		,680
26				.62	,693
27				.68	,768
28				.47	,720
29					,622
30					,701
31					,665
32					,720
34					,717
35					,712
36					,696
37					,765

According to EFA results, as shown in Table 1, a scale of 26 items made up of four factors can explain the %64.55 of the total variance. 11 items with factor loads lower than .30 were omitted in EFA; therefore, the scale consisted of four sub-dimensions and 26 items. The first sub-dimension is the ‘interest’ dimension including 1, 5, 10, 14 and 20. items. The second is the ‘importance’ sub-dimension including 2, 3, 6, 11, 12 and 23. items. The third is the ‘contribution’ sub-dimension with 15, 18, 21 and 24. items. The last sub-dimension is the ‘knowledge & enjoyment’ with 26, 27, 28, 29, 30, 31, 32, 34, 35, 36 and 37. items.

The factor load values in the scale were between .60 and .79. Tabachnick and Fidell (2001) state that the lower limit for factor load values should be .32 in the process of developing and adapting scales. Considering the findings, the factor load values of the four-factor structure of the scale can be said to be at an appropriate level.

In order to analyze the item validity of ATELES, the corrected item-total correlations were considered. The item-total correlation values ranged between .58 and .75. Since the items with .30 and above values are considered to be appropriate to evaluate the particular aspect and they have consistency with the whole scale (Büyüköztürk, 2007; Field, 2009), all the items in this scale can be said to have medium or high-level correlation with the total scale score and had item validity.

Confirmatory Factor Analysis

The model fit of the four-factor structure of ATELES obtained through EFA was analyzed through first level CFA and the findings are presented in Figure 1.

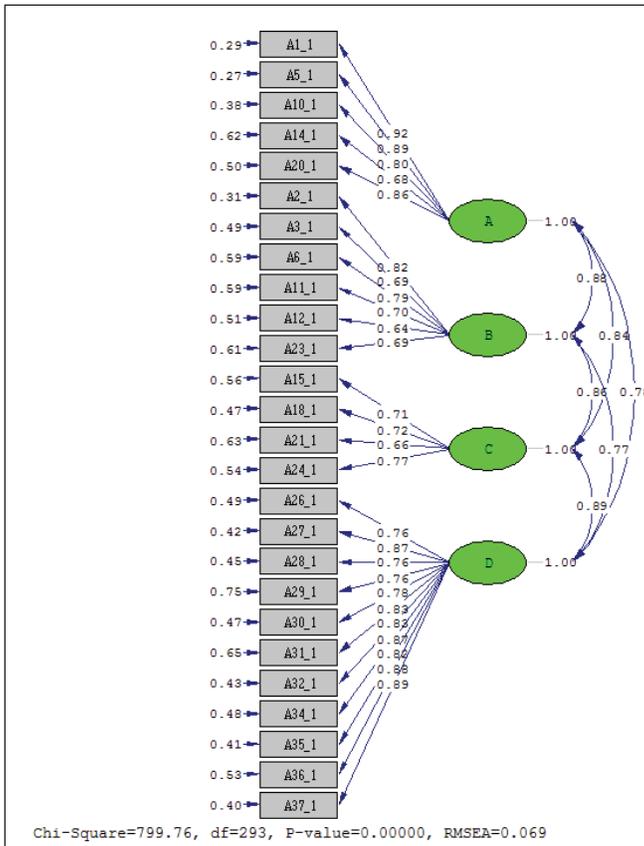


Figure 1. ATELES first level CFA results

Figure 1 shows that the fit indices of ATELES which includes 26 items and four sub-factors are significant ($X^2= 799,76$, $sd=293$, $p=.00$, $X^2/sd=2,93$).

The fit indices values are RMSEA=.069, SRMR: .055, RMR= .046, NFI=.97, NNFI= .98, CFI=.98, IFI=.98, RFI=.97, AGFI=.86, GFI=.86. It can be stated that all the fit indices of this structural model formed in first level EFA are at a good level.

T values between the factors and items were analyzed. No red rows in t values showed that all the items were significant at .05 level.

Reliability Analysis

In order to analyze the reliability of ATELES, internal consistency, split-half reliability and test retest reliability analyses were conducted and the findings are shown in Table 2.

Table 2: The reliability co-efficient of ATELES calculated through internal consistency, split-half reliability and test retest reliability analyses

Dimensions	Internal consistency	Split half reliability
Interest dimension	.92	.82
Importance dimension	.88	.86
Contribution dimension	.91	.89
Knowledge and enjoyment dimension	.86	.84
The whole scale	.96	.92

As a result of the internal consistency, split-half reliability and test retest reliability analyses of ATELES, the reliability coefficient of the whole scale and the sub-dimensions can be said to be at a good level and the whole scale and the sub-dimensions have internal consistency and reliability. Considering that scales with .70 and above reliability coefficient are accepted as reliable, ATELES can be said to have good enough internal consistency, split-half reliability and test retest reliability coefficient (Landis and Koch, 1977; Robinson, Shaver and Wrightsman, 1991).

Results and Discussion

An attitude scale was developed in order to examine the attitudes of high school students towards English lessons and related variables and the validity and reliability analyses were conducted within this framework.

In the process of developing the scale, relevant literature was reviewed, the evaluations of the field experts were obtained and pilot study was conducted to revise item consistencies. After the pilot study, in order to identify the factor structure of the scale, EFA was conducted and a structure with four sub-dimensions which can explain % 64.55 of the total variance was obtained. While Kline (2011) states that the explained variance ratio should be at least % 40, Henson and Roberts

(2006) maintain that this ratio should be at least % 52 and above in developing and adapting scales. Therefore, the values obtained through EFA can be said to be enough to determine the factor structure of the scale. The model fit of the factor structure obtained through EFA was analyzed through first level CFA and the model fit indices were found at a good level ($\chi^2/sd=2,93$, RMSEA=.069, SRMR:.055, RMR= .046, NFI=.97, NNFI= .98, CFI=.98, IFI=.98, RFI=.97, AGFI=.86, GFI=.86). The fit index values obtained through CFA can show that the model fit of the scale is at a good level (Marcoulides and Schumacher, 2001; Schumacher & Lomax, 2004). After the identification of the model fit of ATELES, the four-factor structure was named as interest, importance, contribution and knowledge & enjoyment in line with relevant literature.

Internal consistency, split-half reliability and test retest reliability analyses were conducted in order to identify the reliability of ATELES. The analyses showed that the whole scale and the sub-dimensions were at a good level in terms of internal consistency, split-half reliability and test retest reliability. In developing and adapting scales, the scales are expected to have .70 and above reliability value to be accepted as reliable (Landis & Koch, 1977; Robinson, Shaver and Wrightsman, 1991). Considering the findings, it can be stated that ATELES has internal consistency, split-half reliability and test retest reliability.

In this study, the validity and reliability analyses of ATELES was only conducted with high school students aged between 15 and 18 in Erzurum. Therefore, a major limitation of this study is that it was not conducted with students at different grades in cities other than Erzurum for the validity and reliability analyses of the scale. Future studies can conduct validity and reliability analyses collecting data in different parts of Turkey with different student profiles including those in primary schools. Besides, the adoption of this scale in studies focusing on the relationship between attitudes and other related variables is thought to contribute to the findings related with the validity and reliability of ATELES.

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APPENDIX

İNGİLİZCE DERSİNE YÖNELİK TUTUM ÖLÇEĞİ

		Tamamen Katılıyorum	Katılıyorum	Kararsızım	Katılmıyorum	Hiç Katılmıyorum
	Sevgili öğrenciler, Bu ölçekte İngilizce dersine yönelik tutumlarınızı ölçmek üzere maddeler yer almaktadır. Bu maddelerin her birine yönelik “tamamen katılıyorum”, “katılıyorum”, “kararsızım”, “katılmıyorum” ve “hiç katılmıyorum” şeklinde beş seçenek verilmiştir. Her cümleyi dikkatlice okuduktan sonra size en uygun seçeneği işaretleyiniz.					
1	İngilizce dersini almak benim için bir zevktir.					
2	İngilizce dersi, benim için önemli bir derstir.					
3	İngilizce dersinin, genel kültürümü artırdığını düşünüyorum.					
4	İngilizce dersine çalışmak benim için eğlencelidir.					
5	Her öğrencinin, İngilizce dersini alması gerektiğini düşünüyorum.					
6	İngilizce derslerini dört gözle beklerim.					
7	İngilizce dersinin, küreselleşen dünyaya ayak uydurmama yardımcı olacağını düşünüyorum.					
8	İngilizce dersinin, diller arasındaki benzerlik/farklılıkların bilincine varmama katkı sağladığını düşünüyorum.					
9	İngilizce dersine çalışırken zorlanmam.					
10	İngilizce dersinin, yazma becerimi geliştirdiğini düşünüyorum.					
11	İngilizce dersinin, güzel konuşma becerimi geliştirdiğini düşünüyorum.					
12	İngilizce dersi seçmeli ders olsa da alırım.					
13	İngilizce dersinin, ana dile karşı bakış açımı geliştirdiğini düşünüyorum.					
14	İngilizce dersinin, yurt dışına gidebilmek için bir fırsat olduğunu düşünüyorum.					
15	İngilizce dersinin, dil bilgisi konusundaki bilgimi artırdığımı düşünüyorum.					
16	İngilizce dersinin konularını tekrar etmekten zevk alırım.					
17	İngilizce dersinin, özgüvenimi artırdığımı düşünüyorum.					

18	İngilizce dersinin, dillerin kullanım özellikleri konusundaki bilgimi artırdığını düşünüyorum.					
19	İngilizce dersindeki yeterliğimi geliştirmek için yabancı dizileri/filmleri İngilizce olarak izlemeye çalışırım.					
20	İngilizce dersinin, okuma alışkanlığımı geliştirdiğini düşünüyorum.					
21	Zorunlu İngilizce ders saatleri artırılmalıdır.					
22	İngilizce dersinin, kendimi ifade edebilme becerimi geliştirdiğini düşünüyorum.					
23	İngilizce dersindeki yeterliğimi geliştirmek için, İngilizce düşünmeye çalışırım.					
24	İngilizce dersinin, okuma zevkimi artırdığını düşünüyorum.					
25	İngilizce dersindeki yeterliğimi geliştirmek için, aklımdan geçen ifadeleri İngilizce olarak yazmaya çalışırım.					
26	İngilizce dersinin yabancı dile karşı bakış açımı geliştirdiğini düşünüyorum.					