

# Development of a Scale: Self-Efficiency of English Language Teachers for the Education of Gifted Students

İrem GİRGIN<sup>1</sup>, Gökhan ILGAZ<sup>2</sup>

<sup>1</sup>İrem GİRGIN, Ministry of National Education, Turkey, E-mail: Iremgrgn.o@gmail.com

<sup>2</sup>Gökhan ILGAZ, Trakya University, Turkey. E-mail: gokhani@trakya.edu.tr

ARTICLE INFO	ABSTRACT
<p><b>Keywords:</b> English Language Teaching, Gifted Students, Self-efficiency</p> <p><b>DOI:</b> <a href="http://dx.doi.org/10.21093/ijeltal.v6i2.1039">http://dx.doi.org/10.21093/ijeltal.v6i2.1039</a></p> <p><b>How to cite:</b> Girgin, İ. &amp; Ilgaz, G. (2022). Development of a Scale: Self-Efficiency of English Language Teachers for the Education of Gifted Students. <i>Indonesian Journal of English Language Teaching and Applied Linguistics</i>, 6(2), 207-225</p>	<p>The aim of this study is to develop a scale to measure Self-Efficiency levels of the English Teachers for the Education of gifted students. This research in survey method was carried out with 352 volunteer English Language Teachers (291 women, 61 men) who worked in the 2020-2021 academic year in the Educational Institutions related to the Ministry of National Education in Turkey. To find out validity and reliability of the scale the data set was randomly divided into two. As the result of EFA analysis on the first data set a two-dimensional scale was obtained. The structure obtained was confirmed in the second data set. As a result of discriminant validity test and convergent validity test on both data sets, the scale was found acceptable. After the validity processes, reliability processes were also applied for both separate data sets. For the whole scale, the Cronbach's alpha data coefficient was found as 0.88 in the first data set and it was found 0.87 in the second data set. Results of the analysis revealed that, the Self-Efficiency of the English Teachers for the Education of Gifted Students Scale provides valid and reliable results.</p>

## 1. Introduction

A gifted student is an individual who demonstrates above-average skills in one or more areas of physical, social, emotional, or cognitive contexts compared to their peers (Stephens & Karnes, 2000). Education of gifted individuals is among the issues that have been emphasized in recent years both in Turkey and in the world (Dixson et al, 2020; Kılıç, 2015; Miling, 2021; Rasheed, 2020; Robinson, 2021; Shore, 2021; Morgan, 2020; van Gerven, 2021). It is important to identify gifted individuals and to provide these children with the necessary educative practices. In the identification process of gifted students, the biggest task falls to the teacher. Therefore, the teacher should have the necessary attitudes and opinions about

the education of the gifted (Seyhan, 2015). Studies in the related literature shows that curricula for normal students in meeting the educational needs of gifted individuals are considered inadequate (Grant, 2002; Meador, 1996; Riley, 2011). Another work suggests education programs for gifted individuals should be versatile and support the developmental areas of these individuals (Meador, 1996; Steiner and Carr, 2003). Knowledge and vocational competencies of the educators on gifted student education are considered just as important as the educational programs of gifted individuals. Therefore, the concept that expresses the knowledge and competencies of teachers associated with self-efficacy is considered just as valuable. According to Bandura (2013), self-efficacy is expressed as an individual's ability to direct his behaviors towards a determined goal to be successful. It is stated that individuals with high self-efficacy levels have more strategically flexible, cognitively more skillful, and motivational functions compared to other individuals (Bandura, 1993; Bandura, 2006; Bandura et al, 2012). Related studies have revealed that individuals who can successfully cope with various stressful situations are individuals with high general self-efficacy, thus they perform their duties more effectively (Schwarzer, 1992). Self-efficacy is usually measured as specific to a particular field (Schwarzer & Hallum, 2008). Caprara et al., (2006) suggested that there is a relationship between teachers' self-efficacy beliefs and student satisfaction. In other words, educators with higher general self-efficacy levels can complete challenging tasks more effectively (Schwarzer & Hallum, 2008).

Teacher self-efficacy is an important variable in the educational environment that expresses the beliefs of teachers in their ability to effectively manage the difficulties they encounter during their professional activities and positively affects teachers' academic success (Barni, Danioni & Benevene 2019; Çakıroğlu 2008). Research in the literature shows that teacher self-efficacy can be regarded as a valuable determinant of the classroom environment (Bogler & Nir, 2012; Guo et al, 2011; Tschannen-Moran & Hoy, 2001). Studies related to teacher self-efficacy suggests that performance and motivation are two very important aspects that affect teacher self-efficacy in educational practices (Jamil et al, 2012; Wahlstrom & Louis, 2008; Woessmann, 2011). According to Marjolein et al., (2016) self-efficacy levels can be a predictor of the expected educational outcomes. Therefore, self-efficacy scales can be used to determine teachers' professional qualifications related to classroom practices (Guo et al, 2012; Rooij et al, 2019). Recent studies revealed that teacher's classroom preparation plays an important role in indicating teacher self-efficacy (Ross et al, 1996; Whittington et al, 2006). In other words determining teachers' classroom preparation skills might show their levels of self-efficacy.

Abu-Tineh et al. (2011) suggest that teacher self-efficacy is an integral part of the educational context. While teacher self-efficacy is affected by internal factors such as students' academic success and classroom management, it can also be affected by some external factors (Abu-Tineh et al., 2011; Skaalvik & Skaalvik, 2010). Considering the factors affecting teacher self-efficacy, it is suggested that the teacher's behavior in the classroom, the effort given to education, and the individual's goals, wishes, and desires are closely related (Tschannen-Moran & Hoy, 2001). Studies show that educators with high self-efficacy levels experience higher levels of job satisfaction and lower levels of work-related stress (Caprara et al., 2003). Therefore, studies on teachers' self-efficacy are important in terms of the effectiveness of educational environments. Oga-Baldwin (2019) suggests that engaging and fun language classrooms have a positive effect on improving students' learning.

Foreign language education is necessary for all people in order to raise awareness in many areas such as social, cultural, scientific and economic (Garfinkel, Allen, & Neuharth-Prtichett, 1993). According to literature, there is a close relationship between language abilities and the learning ability (Hayes, 1998; Marantika; 2021; Swaminathan, 2020; Hill and Wagovich, 2020). Verbally gifted individuals can use language more creatively because they have superior language skills and developed language repositories (Allen, 1992; Gubbels et al, 2018). Therefore, verbally gifted individuals are in a position to apply their skills in language learning. According to Deveau (2006), individuals with high learning abilities can make linguistic comparisons and gain rapid proficiency development in linguistic context by using their inherent advanced verbal and higher-order thinking skills as a catalyst with the necessary guidance provided. In addition, individuals who have mastered the structural concepts of languages are likely to be more successful in developing their learning and thinking skills beyond language learning compared to other individuals (Onwuegbuzie, Bailey & Daley, 2000; Yunus, Sulaiman, Embi, 2013). Considering the findings of these studies, the importance of teaching English to gifted individuals emerges (Alibakshi, Nikdel, & Labbafi, 2020).

Many studies can be found in the literature on the English learning proficiency of the students (Fauzan, 2014; Noor, 2016; Saeheng, 2017; Utama, Suharyadi, Astuti, 2021). In addition, many studies were found on determining teacher self-efficacy levels (Cantrell, Young & Moore 2003; Morris, Usher & Chen, 2016; Schunk, Meece & Pintrich 2014; Tschannen-Moran & Hoy, 2001). It has also been observed that there were studies measuring teachers' self-efficacy regarding gifted students (Bayraktar, Ateş & Afat 2019; Dinçer, 2019; Erdoğan, 2015; Freitag, 2020; Matheis, Kronborg, Schmitt & Preckel 2018; Oral, 2017; Tezcan, 2012). To add more it is seen there were studies measuring the self-efficacy levels of English language teachers (Alibakshi, Nikdel & Labbafi, 2020; Balcı, Şanal & Üğüten, 2019; Çankaya, 2018; Kaygısız, Anagun & Karahan, 2018; Kudelich, 2018). On the other hand, English language teachers' self-efficacy levels regarding the education of the gifted students were examined in a limited number of studies. Therefore, this study aims to fill the gap in the related literature by carrying out a study in this field by creating a scale that will measure English language teachers' self-efficacy levels regarding gifted students. A study like this is needed for it will both eliminate the deficiency in the literature and provide important information about the education of the students and their language studies.

Darling-Hammond, Flook, Cook-Harvey, Barron, and Osher (2020) stated that when children are supported with all dimensions of their development, individuals improve their abilities, confidence, and motivation. This finding supports the idea that when the language skills of gifted individuals are supported, their linguistic abilities will improve (Deveau, 2006; Onwuegbuzie, Bailey & Daley, 2000; Yunus, Sulaiman, Embi, 2013). Considering that teachers' self-efficacy affects the quality of the teaching process, it is important to determine the professional self-efficacy levels of English teachers for the education of gifted individuals (Schunk&Pajares, 2009; Zimmerman&Martines-Pons,1990).

Examining self-efficacy levels of teachers; a sensory factor behind talents and skills for education in foreign language environment is of great importance in training these students so that gifted individuals who represent us in many global and local areas do not have foreign language problems in their future lives. This scale could be useful for the deficiencies in the

professional training of teachers and be helpful to provide the necessary vocational training in the related areas.

## 2. Research Methodology

### 2.1 Participants

The participants of this study consist of 352 English Language Teachers who volunteered to participate in this study. This study included 291 female (82.6%) and 61 (17.3%) male teachers. Teachers were divided into seniority groups according to their teaching experiences. Seniority groups consist of three groups; Low Seniority (15.6%), Middle Seniority (72.1%), and High Seniority (12.2%). To add more teachers were divided into three age groups; Young (16.1%), Middle Aged (70.1%), Advanced Aged (13.6%).

Table 2.1. Participant Variable

Seniority Groups	Gender	Age Groups			Total
		Young	Middle Aged	Advanced Aged	
Low Seniority	Female	41	5	1	47
	Male	6	2	0	8
Middle Seniority	Female	8	195	6	209
	Male	2	42	1	45
High Seniority	Female		3	32	35
	Male		0	8	8
Total	Female	49	203	39	291
	Male	8	44	9	61

### 2.2. Instruments: Scale development, Item pool generation and expert review

This study aimed to develop a scale to measure the self-efficacy levels of the English Language Teachers towards gifted students. Teachers' self-efficacy levels were examined considering the educators' general perceptions towards gifted student education, educators' genders, ages, and seniority levels. This scale has two dimensions; "classroom" and "preparation". National and international sources on self-efficacy were examined using qualitative research methods such as literature review and content analysis. Within the scope of the study, Bandura's (2013) studies on self-efficacy were taken into consideration. Then, research on teachers' self-efficacy were scanned in international and national sources. In the next step, scale development studies designed to measure teachers' self-efficacy were examined. Based on the related literature and within a conceptual framework, researchers developed 19 draft items. Finally, the created items were edited and sent to the lecturers working in the Department of English Language Teaching Education, the Department of Assessment and Evaluation, and the Department of Educational Sciences to get an expert review. Experts were asked to give feedback and mark the items among the options as appropriate (2), appropriate but should be corrected (1) or removed (0). In the first stage, feedback was received from 10 lecturers. As a result of the obtained data, expert suggestions revealed that the scale was found unsuitable for content validity. According to feedback from experts some changes were made in some items and in line with the recommendations seven

items were added upon the suggestions of the experts. As a result of this, 26 items were sent to 10 different experts to get expert review again. After feedback from experts, items with similar meaning or irrelevant items were eliminated. Finally number of items on the scale was reduced to 8 items.

### 3. Findings

In this section, the validity and reliability analysis of the " *Self-Efficiency of the English Teachers for the Education of Gifted Students Scale*" was obtained and explained.

#### 3.1. Sub Findings

Content validity ratios (CVR) values were calculated according to the consensus of the experts. As a result of this calculation, items with a CVR value of zero and below were eliminated (Ayre and Scally 2014; Lawshe, 1975; Wilson, et al., 2012). In Ayre and Scally's (2014) calculations of Minimum/Critical Values of CVRs at  $\alpha=0.05$  Significance Level, it is stated that this value should be at least .80 for 10 experts. Since the CGI ratio was obtained as .84 with the remaining items in the calculations this scale was accepted as statistically significant. Validity analyzes of the scale were carried out on two data sets obtained by randomly dividing the data set by approximately 50%. The structure obtained by Exploratory Factor Analysis (EFA) was subjected to Confirmatory Factor Analysis (CFA) with the other data set. In addition, both data sets were also subjected to other validity and reliability analyzes.

Table 3.1. Content validity analysis

	U <sub>11</sub>	U <sub>12</sub>	U <sub>13</sub>	U <sub>14</sub>	U <sub>15</sub>	U <sub>16</sub>	U <sub>17</sub>	U <sub>18</sub>	U <sub>19</sub>	U <sub>20</sub>	CONGRUENCE	CVM
M1	2	2	2	2	2	2	2	2	2	2	10	1
M2	2	1	1	1	2	1	2	2	2	1	5	0
M3	2	2	2	1	1	1	2	2	2	1	6	0.2
M4	2	2	2	2	1	2	2	2	2	1	8	0.6
M5	2	1	2	2	1	2	2	2	2	1	7	0.4
M6	2	1	1	2	2	2	2	1	2	1	6	0.2
M7	2	2	2	0	2	2	2	2	2	1	8	0.6
M8	1	2	1	2	2	1	2	2	2	1	6	0.2
M9	2	2	2	2	2	2	2	2	2	1	9	0.8
M10	2	2	2	1	1	1	2	2	2	1	6	0.2
M11	2	2	2	1	2	1	2	2	0	1	6	0.2
M12	2	2	2	2	2	2	2	2	1	0	8	0.6
M13	2	2	2	2	2	2	2	2	2	1	9	0.8
M14	2	1	2	0	2	2	2	2	2	2	8	0.6
M15	2	2	2	2	2	2	2	1	2	2	9	0.8
M16	2	0	2	1	1	2	2	2	1	1	5	0
M17	2	2	2	0	2	2	2	2	0	1	7	0.4
M18	2	2	2	2	2	2	2	2	2	1	9	0.8
M19	1	2	2	2	2	2	2	2	2	1	8	0.6
M20	2	2	2	2	2	2	2	2	0	1	8	0.6
M21	1	2	2	2	2	2	2	2	2	1	8	0.6
M22	2	2	2	2	2	2	2	2	2	1	9	0.8

M23	2	2	2	1	2	2	2	2	1	1	8	0.6
M24	2	2	2	2	2	2	2	2	2	0	9	0.8
M25	2	2	2	2	2	2	2	2	2	0	9	0.8
M26	2	2	2	2	2	2	2	2	2	2	10	1
Total expert number:10												
Content validity measure (CVM): .80 (Ayre ve Scally 2014)												
Content validity index (CVI): .84												

As a result of the analysis, 9 items (M1, M9, M13, M15, M18, M22, M24, M25, M26) were found applicable and then were administered to 352 people. To perform the exploratory factor analysis, the data set was randomly divided by the program as approximately 50%. The normality of each item was checked and presented in the Table 3.2.

Tablo 3.2. Normality distribution of the items for EFA

Items	Skewness	Kurtosis
1) I can notice my gifted student in English classes.	-1.120	1.090
2) I can prevent the negative behaviors of my gifted student that disrupt the positive classroom atmosphere in the English lessons.	-.679	-.203
3) I can make my gifted student value learning English.	-1.084	.858
4) I can communicate effectively with the family of my gifted student to support his/her English education.	-1.609	1.930
5) I can eliminate the situations that cause my gifted student to not be in harmony with his/her classmates in English class.	-.713	-.238
6) I can differentiate the forms of assessment for my gifted student in English class.	-.986	.254
7) I can prepare an Individualized Education Program (IEP) for my gifted student.	-1.338	1.369
8) I can apply the Individualized Education Program (IEP) that I have prepared for my gifted student.	-1.487	2.637
9) I can develop teaching materials for my gifted student in English class.	-1.052	.259

According to West, Finch and Curan (1995), skewness value of  $\pm 2$  and a Kurtosis value of  $\pm 7$  was considered sufficient for normality. Therefore, analysis of data showed that the items were distributed normally. Multiple regression to detect outliers and multicollinearity revealed there was no correlation between the items above .90, the tolerance values were above .100, the VIF values did not exceed 10, and the highest Mahalanobis value (28.71) did not reach the critical value (29,588). Accordingly, it was accepted that the data set provided the assumptions for multivariate statistics.

In order to determine the suitability of the data for the factor analysis Kaiser-Meyer-Olkin (KMO) and Bartlett tests were performed. KMO value .865 and the Bartlett-Sphericity test result ( $\chi^2 = 821.749$ ,  $sd = 36$ ,  $p = .00$ ) were found to be significant. Therefore, it was decided that the sample was suitable for analysis. Factor analysis was performed using the Maximum Likelihood method and 'direct oblimin' ( $\delta = 0$ ) based on the assumption that possible structures are related. The critical factor load was determined as .32 (Tabachnick & Fidell, 2007). Factors with eigenvalues above 1 and agglomeration graphs were interpreted. As a result of the analysis, a two-dimensional scale was obtained that explained 62.47% of the

total variance. Matrix pattern of the data revealed that the number of factors with an eigenvalue above 1 and the state of the main break indicate that this scale has a two-dimensional structure. (See Figure 3.1)

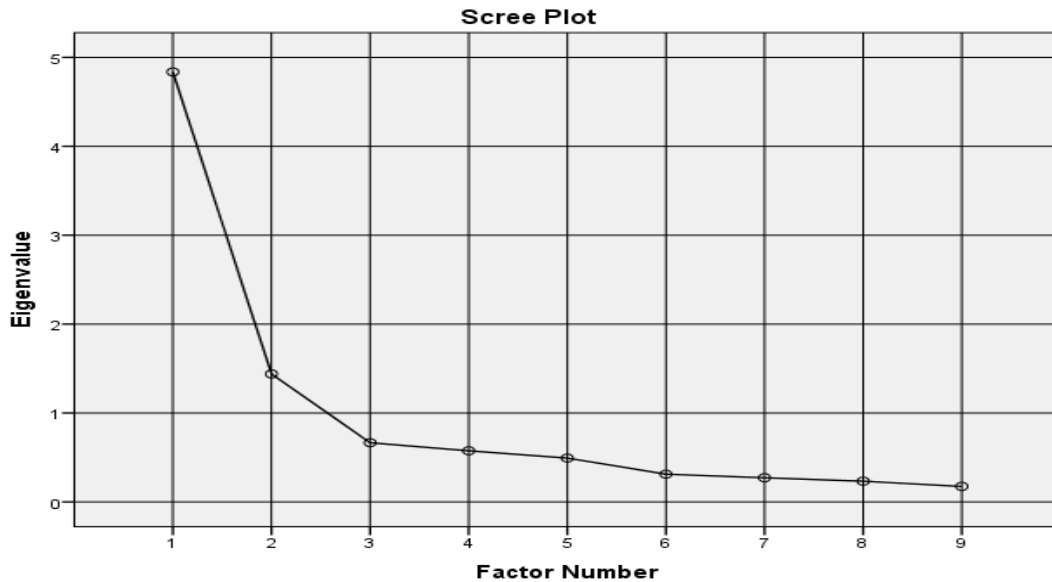


Figure 3.1. Agglomeration graph as a result of the first factor analysis

The results of the analysis and the accumulation graph showed that the scale has a two-factor structure. Examination of the factors revealed that the items in the first factor were mostly related to the preparations in the evaluation, program and material therefore this dimension was called "Preparation". The items in the second dimension were named "Classroom" because it was related to the learning and teaching processes in the classroom.

In order to control the accuracy of the structure obtained by exploratory factor analysis, confirmatory factor analysis based on the structural equation model was carried out randomly with a split data set that comprised approximately 50% of the data set. First of all, it was checked whether the data set met the multivariate statistical assumptions.

Table 3.4. Normality distribution of items for CFA

Items	Skewness	Kurtosis
1) I can notice my gifted student in English classes.	-1.122	.683
2) I can prevent the negative behaviors of my gifted student that disrupt the positive classroom atmosphere in the English lessons.	-.723	-.258
3) I can make my gifted student value learning English.	-1.074	.512
5) I can eliminate the situations that cause my gifted student to not be in harmony with his/her classmates in English class.	-.592	-.602
6) I can differentiate the forms of assessment for my gifted student in English class.	-1.107	.908
7) I can prepare an Individualized Education Program (IEP) for my gifted student.	-1.183	.552
8) I can apply the Individualized Education Program (IEP) that I have prepared for my gifted student.	-.933	.005
9) I can develop teaching materials for my gifted student in English class.	-1.143	.584

To conduct confirmatory factor analysis it was examined whether the skewness value was within the range of  $\pm 2$  and the Kurtosis value was within the range of  $\pm 7$  (West, Finch and Curran, 1995). Results revealed that items showed a normal distribution. Multiple regression was created to detect outliers and multicollinearity. As a result of this analysis, it was found that there was no correlation above .90 between the items. In addition, it was determined that the tolerance values were above .100 and the VIF values did not exceed 10. To add more, it was determined that the highest Mahalanobis value was (26.89) and did not open the critical value (29,588). As a result, the data set provided the assumptions for multivariate statistics. Confirmatory factor analysis was performed and the results were presented in Figure 3.3.

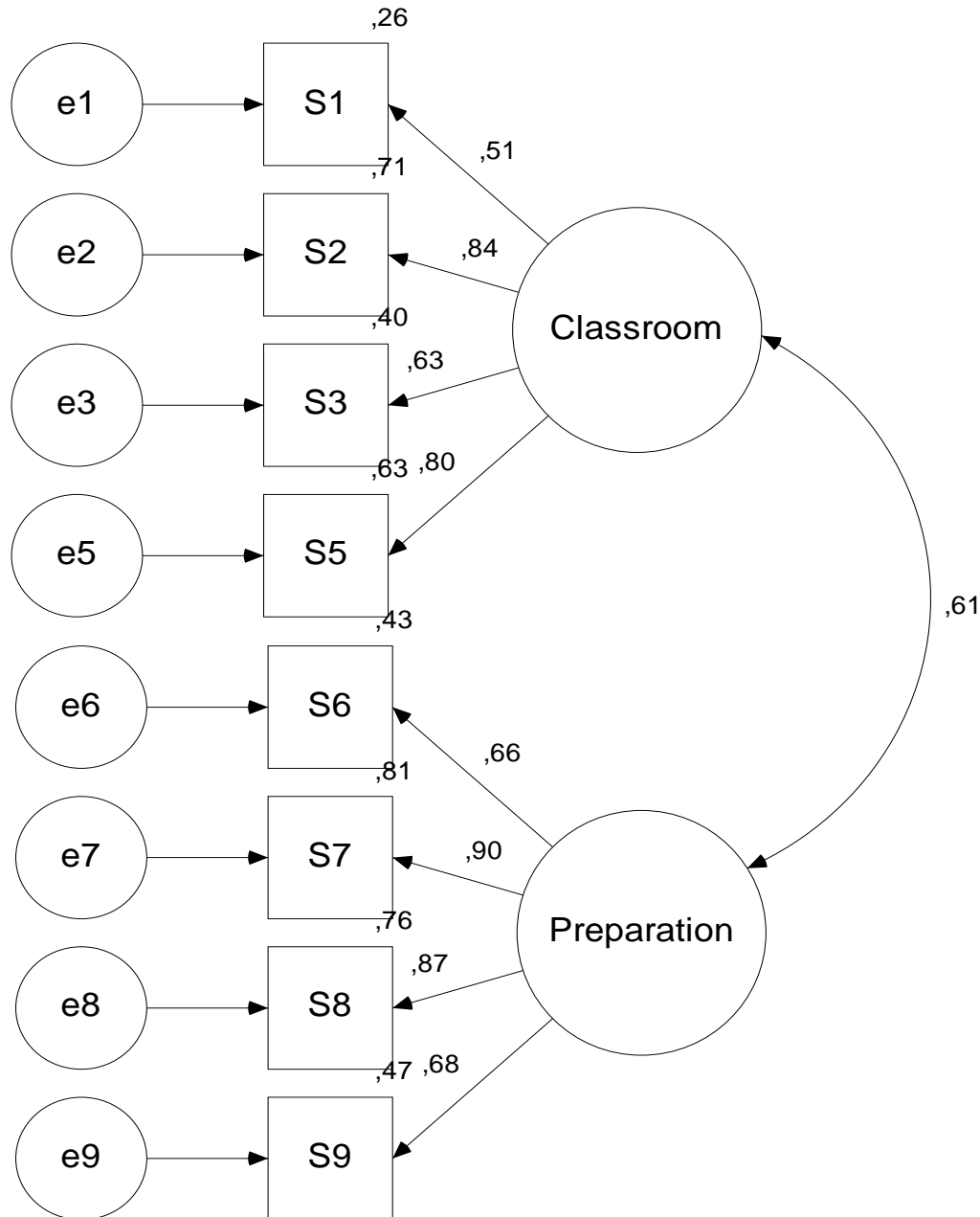


Figure 3.3. Confirmatory Factor Analysis results



As a result of the analysis, chi-square/degree of freedom, TLI and CFI values were examined for the suitability of the model. Chi-square/degree of freedom is less than 5 (Sümer, 2000) TLI (Sümer, 2000; Thompson, 2004; Brown, 2006) and CFI (Brown, 2006; Hu and Bentler, 1999; Sümer, 2000; Thompson, 2004) value of .90 and above indicated good fit in the literature. Based on the  $\chi^2/df=2.94$ , TLI=.92 and CFI=.95 values obtained from the data in the study, it may be stated that, the accuracy of the established model was accepted.

The common variance (AVE) values derived from each of the randomly generated EFA and CFA data sets according to the factor loading values were calculated separately for the results of the Class factor and the results of the Preparation factor. Results are presented in Table 3.5. and Table 3.6.

Table 3.5. Results of the Class factor

EFA				CFA			
	$\lambda$	$\lambda^2$	e		$\lambda$	$\lambda^2$	e
i1	0.493	0.2430	0.7570	i1	0.51	0.2601	0.7399
i2	0.865	0.7482	0.2518	i2	0.84	0.7056	0.2944
i3	0.868	0.7534	0.2466	i3	0.63	0.3969	0.6031
i5	0.664	0.4409	0.5591	i5	0.8	0.6400	0.3600
Total	2.8900	2.1856	1.8144	Total	2.7800	2.0026	1.9974
Squares	8.3521			Squares	7.7284		
Number of items	4			Number of items	4		
AVE	0.5464			AVE	0.5007		
CR	0.8215			CR	0.7946		

Table 3.6. Results of the Preparation factor

EFA				DFA			
	L	$I^2$	e		I	$I^2$	e
i6	0.674	0.4543	0.5457	i6	0.66	0.4356	0.5644
i7	0.919	0.8446	0.1554	i7	0.9	0.8100	0.1900
i8	0.962	0.9254	0.0746	i8	0.87	0.7569	0.2431
i9	0.606	0.3672	0.6328	i9	0.68	0.4624	0.5376
Total	3.1610	2.5915	1.4085	Total	3.1100	2.4649	1.5351
Squares	9.9919			Squares	9.6721		
Number of items	4			Number of items	4		
AVE	0.6479			AVE	0.6162		
CR	0.8765			CR	0.8630		

The fact that the Average Variance Extracted values were higher than 0.50 can be shown as proof of convergent validity (Fornell and Larcker, 1981; Peterson, 2000).

In order to determine the discriminant validity, the items obtained in the construct validity were collected separately in the EFA and CFA data sets, and the upper and lower 27% groups were determined. Shapiro-Wilk tests were used to determine whether the distributions of these groups met the normality assumptions. The Shapiro-Wilk test (Büyüköztürk, 2007) was

used because the top 27% groups were smaller than 50. Mann-Whitney U test was applied because normality distributions were not provided.

Table 3.7. Results of the discriminant validity

Items	Mann-Whitney U-value for AFA dataset distinctiveness	Mann-Whitney U-value for DFA dataset distinctiveness
1) I can notice my gifted student in English classes.	375*	542.5*
2) I can prevent the negative behaviors of my gifted student that disrupt the positive classroom atmosphere in the English lessons.	244.5*	162.5*
3) I can make my gifted student value learning English.	202*	411*
5) I can eliminate the situations that cause my gifted student to not be in harmony with his/her classmates in English class.	79.5*	178.5*
6) I can differentiate the forms of assessment for my gifted student in English class.	124*	307*
7) I can prepare an Individualized Education Program (IEP) for my gifted student.	196*	216.5*
8) I can apply the Individualized Education Program (IEP) that I have prepared for my gifted student.	133.5*	99*
9) I can develop teaching materials for my gifted student in English class.	42.5*	306*

\*p<.05

To calculate the reliability of the scale, Cronbach-Alpha and Composite reliability coefficients were calculated in both data sets and the results were presented in the Table. 3.8.

Table 3.8. Results of the reliability test

Dimensions	Items	Total item correlation		Cronbach-Alfa coefficient		Composite reliability	
		EFA data set	CFA data set	EFA data set	CFA data set	EFA data set	CFA data set
Classroom	1) I can notice my gifted student in English classes.	.53	.46	.83	.78	.82	.79
	2) I can prevent the negative behaviors of my gifted student that disrupt the positive classroom atmosphere in the English lessons.	.73	.72				
	3) I can make my gifted student value learning English.	.74	.54				
	5) I can eliminate the situations that cause my gifted student to not be in harmony with his/her classmates in English class.	.66	.66				

Preparation	6) I can differentiate the forms of assessment for my gifted student in English class.	.69	.61				
	7) I can prepare an Individualized Education Program (IEP) for my gifted student.	.81	.81				
	8) I can apply the Individualized Education Program (IEP) that I have prepared for my gifted student.	.85	.76	.89	.86	.87	.86
	9) I can develop teaching materials for my gifted student in English class.	.68	.64				
Whole scale	1) I can notice my gifted student in English classes.	.54	.41				
	2) I can prevent the negative behaviors of my gifted student that disrupt the positive classroom atmosphere in the English lessons.	.53	.62				
	3) I can make my gifted student value learning English.	.60	.60				
	5) I can eliminate the situations that cause my gifted student to not be in harmony with his/her classmates in English class.	.68	.63				
				.88	.87		
	6) I can differentiate the forms of assessment for my gifted student in English class.	.68	.64				
	7) I can prepare an Individualized Education Program (IEP) for my gifted student.	.67	.70				
	8) I can apply the Individualized Education Program (IEP) that I have prepared for my gifted student.	.72	.71				
	9) I can develop teaching materials for my gifted student in English class.	.73	.63				

For total item correlation, .30 and above is considered sufficient (Büyüköztürk, 2007). Thus, as a result of the reliability test, the items exemplified similar behaviors and the internal consistency was found high. According to Özdamar (2004), A Cronbach-Alpha number of 0.60 and above was considered acceptable. Therefore, it can be stated that the internal consistency of the overall scale and its sub-dimensions is high.

#### 4. Discussion

##### 4.1.Descriptives

EFA was performed to determine the normality of each item of the scale. Kaiser-Meyer-Olkin (KMO) and Bartlett tests were performed for 9 items, as a result, the KMO value was found

.865, and the Bartlett-Sphericity test chi-square value was found to be 821.749 (sd = 36,  $p = .00$ ). Accordingly, it was decided that the sample was suitable for analysis. Factor analysis was performed using the Maximum Likelihood method and 'direct oblimin' (delta = 0) based on the assumption that possible structures are related. The critical factor load was determined as .32 (Tabachnick & Fidell, 2007). While interpreting the analysis results, factors with eigenvalues above 1 and agglomeration graphs were interpreted. As a result of the EFA, a two-dimensional scale explaining 62.47% of the total variance was obtained.

To control the accuracy of the structure obtained by EFA, CFA was performed. Based on the structural equation model CFA was carried out randomly with a split data set, which constitutes approximately 50% of the data set. Chi-square/degree of freedom is less than 5 (Sümer, 2000) TLI (Schumacker and Lomaks, 1996; Sümer, 2000; Thompson, 2004; Brown, 2006) and CFI (Brown, 2006; Hu and Bentler, 1999; Sümer, 2000; Thompson, 2004) value of 90 and above indicates good fit in the literature. As  $\chi^2/sd=2.94$ , TLI=.92, and CFI=.95 values were obtained as a result of this analysis, the accuracy of the established model was accepted.

The common variance (AVE) values derived from each of the randomly generated EFA and CFA data sets according to the factor loading values were calculated separately for the results of the Class factor and the results of the Preparation factor. The fact that the Average Variance Extracted values are greater than 0.50 can be shown as proof of convergent validity (Fornell and Larcker, 1981). Another proof of convergent validity is that the composite reliability (CR) is .70 and above and it satisfies the  $CR > AVE$  condition. In this study, both dimensions met this condition (Hair, Black, Bobby, & Anderson, 2010).

To determine the discriminant validity, the items obtained in the construct validity were collected separately in the EFA and CFA data sets, and the upper and lower 27% groups were determined. Kolmogorov-Smirnov and Shapiro-Wilk tests were used to determine whether the distributions of these groups met the normality assumptions.

To calculate the reliability of the scale, Cronbach-Alpha and Composite reliability coefficients were calculated in both data sets. It was considered sufficient to be .30 and above for the item-total correlation (Büyüköztürk, 2007). As a result, it is revealed that the items exemplify similar behaviors and the internal consistency of the scale is high. In a study examining internal consistency, a Cronbach-Alpha number of .60 and above was considered acceptable (Özdamar, 2004). Also a CR value of .70 and above indicates high composite validity (Hair, Black, Bobby, & Anderson, 2010). Thus, internal consistency of the overall scale and its sub-dimensions was considered high.

#### **4.2. Self-efficacy of English teachers regarding Gifted students**

Bandura (2013) suggests that, teachers with a high level of self-efficacy behave productively and gain personal satisfaction from this effort; on the contrary, teachers with low teacher self-efficacy and low outcome expectations were predicted to exhibit behaviors that show resignation and indifference. Darling-Hammond, Flook, Cook-Harvey, Barron, and Osher (2020) stated that supporting children with all dimensions of their development, enables individuals to improve their abilities, confidence, and motivation. This finding supports the idea that when the language skills of gifted individuals are supported, their linguistic abilities will improve. Considering that teachers' self-efficacy affects the quality of the teaching

process, it is important to determine the professional self-efficacy of English teachers for the education of gifted individuals. Examining the professional skills and abilities of teachers in foreign language education is of great importance in the training of these students so that gifted individuals who represent us in many global and local areas do not have foreign language problems in their future lives. Therefore in this study, it was planned to develop a measurement tool to determine teachers' self-efficacy levels regarding an important group, gifted students.

Self-efficacy has been defined as the ability of people to cope with difficult situations and is one of the most important features that determine human behavior (Schwarzer, 1992; Schwarzer & Hallum, 2008). Therefore, self-efficacy is one of the characteristics that determine the behavior of teachers in the classroom (Baleghizadeh & Shakouri, 2017; Tschannen-Moran & Hoy, 2001). An instructional design consists of two dimensions; preparation and the class itself (Diningrat et al, 2020; Geiger et al, 2022; Kantahan et al, 2020; Stefaniak et al, 2021). In this sense, this scale consists of two different dimensions "preparation" and "class". There are field-specific or subject-specific studies on self-efficacy in the literature (Schwarzer ve Hallum, 2008). This study aims to measure the self-efficacy levels of English language teachers regarding gifted students.

In the data collection stage, it was expected that a preparation to be made before the lesson, depending on the instructional design and that these preparations would be reflected in the class. As a result of the study, it was found that this scale provided this structure. The review of the related literature shows different items are available in similar scales. Çolak et al, (2017), developed the teachers' self-efficacy belief scale and this scale consisted of four dimensions, namely "Academic self-efficacy", "Professional self-efficacy", "Social self-efficacy" and "Intellectual self-efficacy". In addition, Enochs, Smith, and Huinker (2000) measured teachers' mathematics teaching efficacy beliefs. This scale consists of two dimensions as "self-efficacy" and "outcome expectancy". Tschannen-Moran and Hoy (2001) conducted another study measuring teacher self-efficacy. This scale is a three-dimensional study including "student engagement", "instructional strategies" and "classroom management". In addition, Aksoy and Diken (2009) examined the perceptions of psychological counseling self-efficacy of guidance teachers in special education designing a unidimensional scale in their study. Çalışkan, Selçuk, and Özcan (2010) measured the self-efficacy beliefs of physics teacher candidates in their studies. The scale developed in this study consists of five sub-dimensions: "ability to solve physics problems", "self-efficacy for success in physics courses", "self-efficacy to use physics information", "self-efficacy to remember physics information", "self-efficacy for success in physics laboratory". The current study consists of two sub-dimensions: "class" and "preparation". A review of the previous studies revealed that there were limited amounts of items examining out-of-class and in-class actions. Thus, with this study, a field-specific self-efficacy scale was developed and at the same time, the factors related to in-class and out-of-class processes are examined with the items in the scale.

## **5. Conclusion**

In sum, a 8-item two factor scale for measurement of English language teachers' attitudes towards gifted students was developed. Two dimensional structure was obtained through EFA analysis on the first data set then verified in CFA. Evaluation of discriminant validity and

convergent validity on both data sets showed that the scale is applicable. Validity and reliability of the scale indicated that the "Self-Efficiency of the English Teachers for the Education of Gifted Students Scale" provides valid and reliable results.

Literature review of the related studies revealed that there were many studies determining teacher self-efficacy levels and self-efficacy levels of teachers regarding gifted students (Alibakshi, Nikdel & Labbafi, 2020; Balci, Şanal & Üğüten, 2019; Bayraktar, Ateş & Afat 2019; Cantrell, Young & Moore 2003; Çankaya, 2018; Dinçer, 2019; Erdoğan, 2015; Freitag, 2020; Kaygısız, Anagun & Karahan, 2018; Kudelich, 2018; Matheis, Kronborg, Schmitt & Preckel 2018; Morris, Usher & Chen, 2016; Oral, 2017; Schunk, Meece & Pintrich 2014; Tezcan, 2012; Tschannen-Moran & Hoy, 2001). Yet there was a limited number of studies about English teachers' self-efficacy levels for gifted students. Therefore with this study, it was aimed to measure the self-efficacy levels of English language teachers towards gifted students and to fill this gap in the field. On the other hand, the developed scale also includes the preparation and process dimensions of a lesson in its design. Therefore, this study aims to create a scale to determine the role of self-efficacy in measuring the possible self-efficacy levels of teachers and preventing the negative situations they might encounter in the preparation, learning, and teaching processes. During the lesson, the teachers might sometimes feel insufficient in the preparation phase, this will be determined by the preparation dimension of the scale. On the other hand, the teacher might feel sufficient in the preparation phase but be insufficient in the process phase, this will be determined in the classroom dimension of the scale. As a result of this study, a scale was created to be used to determine other sensory characteristics related to self-efficacy.

Self-efficacy is usually measured as specific to a particular field (Schwarzer & Hallum, 2008). In further research, the scale developed in this study can be adapted to measure teacher self-efficacy in different branches. In addition, this scale can be adapted to other languages and used in a larger study to measure the self-efficacy levels of English language teachers around the world for gifted students.

## References

- Abu-Tineh, A.M., Khasawneh, S.A. & Khalaileh, H. A. (2011). Teacher self-efficacy and classroom management styles in Jordanian schools, *Management Education*, 25(4), 175-181.
- Aksoy, V. & Diken, İ. H. (2009). Rehber Öğretmenlerin Özel Eğitimde Psikolojik Danışma ve Rehberliğe İlişkin Öz Yeterlik Algılarının İncelenmesi, *İlköğretim Online* 8(3), 709-719.
- Alibakshi, G., Nikdel, F. & Labbafi, A. (2020). Exploring the consequences of teachers self-efficacy: a case of teachers of English as a foreign language, *Asian-Pacific Journal of Second and Foreign Language Education*, 5(23), 1-19.
- Allen, L. Q. (1992). Foreign language curriculum for the gifted. *Gifted Child Today Magazine*, 15(6), 12-15.
- Ayre, C. & Scally A. J. (2014). Critical values for Lawshe's content validity ratio: revisiting the original methods of calculation. *Measurement and Evaluation in Counseling and Development*, 47(1), 79-86.

- Balcı, Ö., Şanal, F. ve Üğüten, S. D. (2019). An investigation of pre-service English language teachers' self-efficacy beliefs, *International Journal of Modern Education Studies*, 3(1), 41-53.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, (28), 117-148.
- Barni, D., Danioni, F. & Benevene, P. (2019) Teachers' Self-Efficacy: The Role of Personal Values and Motivations for Teaching. *Frontiers in Psychology*, (10), 1-7. DOI: 10.3389/fpsyg.2019.01645. PMID: 31354604; PMCID: PMC6640028.
- Bandura, A., Pajares, G. and Urdan, T.(2006). Self-efficacy beliefs of adolescents. *Guide for constructing self-efficacy scales*, 5, 307.
- Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited, *Sage Publications: Journal of Management*, 38(1), 9-44.
- Bandura, A. (2013). *Self-efficacy and social cognitive theories*, Penn state.
- Bayraktar, H. V., Ateş, H. K. ve Afat, N. (2019). An analysis on the relationship between primary school teachers' self-efficacy beliefs and attitudes towards gifted education, *International Journal of Eurasia Social Sciences*, 10(38) 1099-1124.
- Büyüköztürk, Ş. (2007). *Sosyal Bilimler için Veri Analizi El Kitabı*, Ankara: Pegem Yayıncılık.
- Bogler, R. & Nir, A. (2012). The importance of teachers' perceived organizational support to job satisfaction: what's empowerment got to do with it? *Journal of Educational Administration*, 50(3), 287-306.
- Brown, T. A. (2006). *Confirmatory factor analysis for applied research*. The Guilford Press.
- Büyüköztürk, Ş. (2007). *Sosyal Bilimler için Veri Analizi El Kitabı*, Ankara: Pegem Yayıncılık.
- Caprara, G.V., Barbaranelli, C., Borgogni, L. & Steca, P. (2003). Efficacy beliefs as determinants of teachers' job satisfaction. *Journal of Educational Psychology*, 95(4), 821-832.
- Çakıroğlu, E. (2008). The teaching efficacy beliefs of pre-service teachers in the USA and Turkey. *Journal of Education for Teaching*, 34(1), 33-44.
- Çalışkan, S., Selçuk, G. S. ve Özcan, Ö. (2010). Fizik Öğretmen Adaylarının Özyeterlik İnançları: Cinsiyet, Sınıf Düzeyi ve Akademik Başarının Etkileri, *Kastamonu Eğitim Dergisi*, 18(2), 449-466.
- Cantrell, P., Young, S. & Moore, A. (2003). Factors affecting science teaching efficacy of preservice elementary teachers. *Journal of Science Teacher Education*, 14(3) 177-192.
- Çankaya, P. (2018). The exploration of the self-efficacy beliefs of English language teachers and student teachers, *Journal of Language and Linguistic Studies*, 14(3), 12-23.k
- Çolak, İ., Yorulmaz, Y. İ. & Altınkurt, Y. (2017). Öğretmen Özyeterlik İnanç Ölçeği Geçerlik ve Güvenirlik Çalışması, *MSKU Eğitim Fakültesi Dergisi*, 4(1), 20-32.
- Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B. & Osher, D. (2020). Implications for the educational practice of the science of learning and development. *Applied Developmental Science*, 24(2), 97-140.
- Dean, G. (1998). *Challenging the More Able Language User*. London: David Fulton Publishers.
- Deveau, T. (2006). Strategies for gifted second language learners, *Academic Exchange Quarterly*.
- Dinçer, S. (2019). Investigation of the Gifted Education Self-Efficacy of Teachers Work with Gifted Students, *Journal of Gifted Education and Creativity*, 6(3), 167-174.

- Diningrat, S. W. M. D., Setyosari, P., Ulfa, S. & Widiati, U. (2020). Integrating PBU in the flipped classroom: A framework for effective instruction, *World Journal of Educational Technology: Current Issues*, 12(2), 117-127.
- Dixon, D. D., Peters, S. J., Makel, M. C., Jolly, J. L., Matthews, M.S., Miller, E. M., Rambo-Hernandez, K. E., Rinn, A. N., Robins, J. H., and Wilson H.E. (2021). A Call to Reframe Gifted Education as Maximizing Learning, *Phi Delta Kappan*, 102(4), 22-25.
- Enochs, L. G., Smith, P. L., & Huinker, D. (2000). *Establishing Factorial Validity of the Mathematics Teaching Efficacy Beliefs Instrument*. *School Science and Mathematics*, 100(4), 194-202
- Erdoğan, S. C. (2015). Investigating Pre-service Gifted Education Teachers' Self-efficacy toward Science Teaching and Scientific Attitudes, *Eurasian Journal of Educational Research*, 15(59), 133-148.
- Fauzan, U. (2014). The use of improvisations technique to improve the speaking ability of EFL students, *Dinamika Ilmu, Jurnal Pendidikan*, 14(2), 264-287.
- Fornell, C. & Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error, *Journal of Marketing Research*, 18(1), 39-50.
- Freitag, M. (2020). *Examining Preservice Teachers' Attitudes, Self-Efficacy and Differentiating Instruction for Educating Gifted Learners*, (Doctoral Dissertation, The University of Southern Mississippi).
- Gallagher, J. J. (1976). The gifted child in elementary school. In *The Intellectually Gifted: An Overview*.
- Garfinkel, A., Allen, L. Q. V. & Neuharth-Prichett, S. (1993). Foreign language for the gifted: Extending affective dimensions. *Roeper Review*, 15(4), 235-238.
- Geiger, V., Galbraith, P., Niss, M. & Delzoppa, C. (2022). Developing a task design and implementation framework for fostering mathematical modeling competencies, *Educational Studies in Mathematics*, 109, 313-336.
- Grant, B. (2002). Justifying gifted education: A critique of needs claims and a proposal. *Journal for the Education of the Gifted*, 25(4), 359-374.
- Gubbels, J., Segers, E. and Verhoven, L. (2018). How Children's Intellectual Profiles Relate to Their Cognitive, Socio-Emotional, and Academic Functioning, *High Ability Studies*, 29(2), 149-168.
- Guo, Y., Justice, L. M., Sawyer, B., & Tompkins, V. (2011). Exploring factors related to preschool teachers' self-efficacy, *Teaching and Teacher Education*, 27(5), 961- 968.
- Guo, Y., Connor, C. M., Yang, Y., Roehrig, A. D., & Morrison, F. J. (2012). The effects of teacher qualification, teacher self-efficacy, and classroom practices on fifth graders' literacy outcomes. *The Elementary School Journal*, 113(1), 3-24.
- Hair, J. F., Black, W. C., Babin, B. J. & Anderson, R. E. (2010). *Multivariate Data Analysis* (7th ed.). Prentice-Hall.
- Hayes P.A., Norris J. & Flaitz J. (1998). Evidence of language problems in underachieving gifted adolescents: Implications for assessment. *Journal of Secondary Gifted Education*, 9(4), 179-194.
- Hill, M. S. And Wagovich, S. A.(2020). Word Learning from Context in School-Age Children: Relations with Language Ability and Executive Function, *Journal of Child Language*, 47(5), 1006-1029.
- Hu, L. & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives, *Structural Equation Modeling*, 6(1), 1-55.



- Jamil, F. M., Downer, J. T., & Pianta, R. C. (2012). Association of Pre-Service Teachers' Performance, Personality, and Beliefs with Teacher Self-Efficacy at Program Completion. *Teacher Education Quarterly*, 39(4), 119–138.
- Kantahan, S., Junpeng, P., Punturat, S., Tang, K.N., Gochyyev, P. & Wilson, M. (2020). Designing and verifying a tool for diagnosing scientific misconceptions in genetics topic, *International Journal of Evaluation and Research in Education*, 9(3), 564-571.
- Kaygısız, S., Anagun, S. S. ve Karahan, E. (2018). The Predictive Relationship between Self-Efficacy Levels of English Teachers and Language Teaching Methods, *Eurasian Journal of Educational Research*, 78(18), 183-202.
- Kılıç, V. C. (2015). Türkiye’de üstün ve özel yetenekli çocuklara yönelik bir eğitim politikası oluşturulamaması sorunu üzerine bir değerlendirme. 21. *Yüzyılda Eğitim ve Toplum Eğitim Bilimleri Ve Sosyal Araştırmalar Dergisi*, 4(12), 145-154.
- Kudulich, A. (2018). *Teaching English Language Learners: A Qualitative Descriptive Study of Teachers' Self-Efficacy*, (Doctoral Dissertation, Grand Canyon University) ProQuest Dissertations & Theses Global.
- Lawshe, C. H. (1975). A quantitative approach to content validity. *Personnel Psychology*, 28(4), 563-575.
- Marantika, J. E. R. (2021). Metacognitive Ability and Autonomous Learning Strategy in Improving Learning Outcomes, *Journal of Education and Learning*, 15(1), 88-96.
- Matheis, S., Kronborg, L., Schmitt, M. & Preckel, F. (2018). Threat or challenge? Teacher beliefs about gifted students and their relationship to teacher motivation, *Gifted and Talented International*, 32(2), 1-27.
- Meador, K. (2012). Meeting the needs of young gifted students, *Childhood Education*, 73(1), 6-9.
- Milinga, J.R. (2021). Rethinking Gifted Education in Tanzania: Toward Its Development in the Country, *Gifted Child Today*, 44(4), 216-227.
- Morgan, H. (2020). The Gap in Gifted Education: Can Universal Screening Narrow It?, *Education*, 140(4), 207-214.
- Morris, D. B., Usher, E. L., & Chen, J. A. (2017). Reconceptualizing the sources of teaching self-efficacy: A critical review of emerging literature. *Educational Psychology Review*, 29(4), 795–833.
- Noor, M. (2016). Improving the Ability in Writing Narrative Text of Junior High School Students through Peer Feedback, *Indonesian Journal of English Teaching and Applied Linguistics*, 1(1), 11-21.
- Oga-Baldwin, W. Q. (2019). Acting, thinking, feeling, making, collaborating: The engagement process in foreign language learning. *The system*, 86, 102128.
- Özdamar, K. (2004). *Paket Programlar İle İstatistiksel Veri Analizi*, Eskişehir: Kaan Kitabevi.
- Peterson, R. A. (2000). A meta-analysis of variance accounted for and factor loadings in exploratory factor analysis. *Marketing letters*, 11(3), 261-275.
- Rasheed, M. (2020). Context and Content in Rural Gifted Education: A Literature Review, *Journal of Advanced Academics*, 31(1), 61-84.
- Riley, T. (2011). *Curriculum models: The framework for gifted and talented education*. In R. Moltzen (Eds.), *Gifted and talented: New Zealand perspectives*. Auckland: Pearson.
- Robinson, A. (2021). An Administrators' Association Partnership Translates to Gifted Education Advocacy, *Gifted Child Today*, 44(1), 13-19.

- Ross, J.A., Cousins, J. B. & Gadalla, T. (1996). Within-Teacher Predictors of Teacher Efficacy, *Teaching & Teacher Education*, 12(4), 385-400.
- Saeheng, P. (2017). A Study of e-Learning, Blended Learning, and Traditional Teaching Methods to Motivate Autonomous Learning in English Reading Comprehension of Thai Learners, *Indonesian Journal of English Language Teaching and Applied Linguistics*, 2(1), 1-20.
- Seyhan, B. (2015). *Okul öncesi öğretmenlerinin üstün yetenekli çocuklara yönelik algıları ile tutumları arasındaki ilişkinin incelenmesi* (Yüksek Lisans Tezi). Gazi Üniversitesi, Eğitim Bilimleri Enstitüsü, Okul Öncesi Öğretmenliği Anabilim Dalı, Ankara.
- Schumacker, E. R., & Lomax, G. R. (1996). *A beginner's guide to structural equation modeling*. Mahwah, NJ Erlbaum.
- Schunk, D. H., & Pajares, F. (2009). Self-efficacy theory. *Handbook of motivation at school*, 35, 54.
- Schunk, D. H., Meece, J. R. & Pintrich, P. R. (2014). *Motivation in education: Theory, research, and applications* (4th ed.). Upper Saddle River: Pearson.
- Schwarzer, R. (1992). *Self-efficacy: Thought control of atisticthe action*. Washington DC: Hemisphere.
- Schwarzer, R. & Hallum, S. (2008). Perceived teacher self-efficacy as a predictor of job stress and burnout: Mediation analyses. *Applied Psychology: An International Review*, 57(1), 152-171.
- Shore, B. M. (2021). Context Matters in Gifted Education, *Education Sciences*, 11, 1-10.
- Skaalvik, E. M. & Skaalvik, S. (2010). Teacher self-efficacy and teacher burnout: A study of relations, *Teaching and Teacher Education*, 26(4) 1059-1069.
- Stefaniak, J., Yang, X. & DeVaughn, P. (2021). The Preparation of Instructional Designers: An Exploration of Design Pedagogy and Praxis, *Educational Media and Technology Yearbook*, 43, 17-31.
- Stephens, K. R. & Karnes, F. A. (2000). State definitions for the gifted and talented revisited. *Exceptional Children*, 66(2), 219-238.
- Sümer, N. (2000). Yapısal Eşitlik Modelleri: Temel Kavramlar ve Örnek Uygulamalar. *Türk Psikoloji Yazıları*, 3(6), 49-74.
- Swaminathan, S. (2020). Musical Ability, Music Training, and Language Ability in Childhood, *Journal of Experimental Psychology: Learning, Memory and Cognition*, 46(12), 2340-2348.
- Tabachnick, B.G. & Fidell, L.S. (2007). *Using multivariate st.* (Fifth edition). NY: Allyn and Bacon.
- Tezcan, F. (2012). *Perceptions of Early Childhood Teachers Towards Young Gifted Children and Their Education*, (Masters Thesis, Middle East Technical University).
- Thompson, B. (2004). *Exploratory and confirmatory factor analysis: Understanding concepts and applications*. Washington, DC: American Psychological Association.
- Tschannen-Moran, M. & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, 17(7), 783-805.
- Utami, R. P., Suharyadi, S. & Astuti, U. P. (2021). EFL Teachers' Problems and Solutions in Teaching English to Students with Intellectual and Developmental Disability, *Indonesian Journal of English Language Teaching and Applied Linguistics*, 6(1), 173-188.
- Onwuegzuie, A. J., Bailey, P. & Daley, C. E. (2000). Cognitive, affective, personality, and demographic predictors of foreign-language achievement. *Journal of Educational Research*, 94(1), 3-15.

- Oral, E. (2017). Examination of Pre-School Teachers' Self-Efficacy Beliefs and Self-Efficacy Regarding Gifted Education, *Journal for the Education of Gifted Young Scientists*, 5(4), 49-58.
- Van Gerven, E. (2021). Educational Paradigm Shifts and the Effects on Educating Gifted Students in the Netherlands and Flanders, *Journal for the Education of the Gifted*, 44(2), 171-200.
- Van Rooij, E. C. M., Fokkens-Bruinsma, M., & Goedhart, M. (2019). Preparing science undergraduates for a teaching career: Sources of their teacher self-efficacy. *The Teacher Educator*, 54(3), 270-294.
- Wahlstrom, K. L. & Louis, K. S. (2008). How teachers experience principal leadership: The roles of the professional community, trust, efficacy, and shared responsibility, *Educational Administration Quarterly*, 44(4), 458-495.
- West, S., Finch, J., & Curran, P. (1995). *Structural equation models with non-normal variables: Problems and remedies*. In R. Hoyle (Ed.), *Structural Equation Modelling: Concepts, Issues, and Applications*, (p.56-75). Thousand Oaks, CA: Sage.
- Whittington, M. S., McConnell, E. & Knobloch, N. A. (2006). Teacher efficacy of novice teachers in agricultural education in Ohio at the end of the school year, *Journal of Agricultural Education*, 47(4), 26-38.
- Wilson, F. R., Pan, W. & Schumsky, D. A. (2012). Recalculation of the critical values for Lawshe's content validity ratio. *Measurement and Evaluation in Counseling and Development*, 45(3), 197-210.
- Woessmann, L. (2011). Cross-country evidence on teacher performance pay, *Economics of Education Review*, 30(3), 404-418.
- Yunus, M. M., Sulaiman, N. A. & Embi, M. A. (2013). Malaysian Gifted Students' Use of English Language Learning Strategies, *English Language Teaching*, 6(4), 97-109.
- Zimmerman, B. J., & Martinez-Pons, M. (1990). Student differences in self-regulated learning: Relating grade, sex, and giftedness to self-efficacy and strategy use. *Journal of Educational Psychology*, 82(1), 51.