Journal of Gifted Education and Creativity, 9(3), 227-241, Sept 2022
e-ISSN: 2149- 1410
jgedc.org
dergipark.org.tr/jgedc

Young Wise Publishing
youngwisepub.com
gencbilgeyayincilik.com

Research Article

Teachers in identification of gifted students: adaptation of an observation form[1]

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Article Info

Received: 22 May 2022
Accepted: 16 July 2022
Available online: 30 Sept 2022

Keywords:
Adaptation
Gifted education
Identification
Nomination
Observation
Potential
Teacher

Abstract

The first stage in identification of gifted students is the nomination step. Any mistake that teachers might make in nomination process might result in failure to identify gifted students or deprivation of relevant support that their skills require. Due to the quite detailed and long-term nature of teacher observations of children in recent years, it has been emphasized that teacher observation and resulting nomination process are very important in developing teacher observation scales and identifying gifted students. The goal of this study is to assist teachers in identification and nomination of 5-9 year-old gifted students. Another goal of the study is to test validity and reliability of Teacher's Observation of Potential in Students Form, which is considered to be effective in selecting gifted students. The study was planned and patterned according to relational and methodological research type. Study data were collected from 179 teachers and 1252 5-9 year-old students in government preschools and primary schools affiliated with Directorate of National Education in Kırklareli City Centre, Lüleburgaz and Babaeski districts. Analysis results indicate that Observation Forms are valid, reliable and compatible with Social Skills Assessment Scale, Marmara Primary School Readiness Scale and Denver II Developmental Screening Test. It has been concluded that all the students nominated by means of Teacher's Observation of Potential in Students Form passed the entrance test to Science, Art and Education Centre. Study results indicate that Teacher's Observation of Potential in Students Form might be effectively used by teachers to nominate gifted students. As Teacher's Observation of Potential in Students Form is capable of meeting the psychometric conditions, it might also be added that the form is valid and reliable.

To cite this article:

Akten, S. & Ahmetoğlu, E. (2022). Teachers in identification of gifted students: adaptation of an observation form. *Journal of Gifted Education and Creativity, 9*(3), 227-241.

Introduction

Many scientists argue that human intelligence is an innate mental skill used to perceive and remember knowledge. However; several scientists thinking the other way have claimed that human intelligence is a mental skill that adapts to the environment (Gardner and Seana, 2006; Kaplan and Saccuzzo, 2005). Giftedness has historically been observed in various forms ranging from IQ tests to identification of multiple skill types. Ideas of giftedness and intelligence tests that occurred with Renaissance Age developed from early 20th century until today. Current definitions of giftedness place more importance to the combination of cognitive skills and non-intellectual personality traits (Coleman, Micko & Cross,

[1] This research has been made up of the doctora thesis (2020) titled as "Teachers in Identification of Gifted Students"

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2015; Linn, 2015). Reis and Renzulli (2000) define gifted and talented children as a wide-range group that have sufficiently developed skills in one or more fields and require changes in school setting for their education.

Today, it iş widely accepted that children must perform cognitive skills in the first 10 % (or better) of their chronological peer groups in order to be recognized as gifted (Aiken, 2012). Intelligence tests used for diagnosis of gifted students might cause disadvantage for students coming from families of lower socio-economic status. Students' intelligence test performance are related to richness of their life experience and learning opportunities. Therefore, children who have an inadequate environment for life long learning are likely to display poorer performance in intelligence tests. In diagnosis process of gifted students, their socio-economic and cultural differences might be taken into account and performance of children from lower socio-economic status might be assessed in multiple ways (Sak, 2014). Güçyeter (2016), who have studied identification processes in Turkey suggests that that there is not an identification process intended for disadvantaged groups such as children from lower socio-economic status, gifted girls etc., adding that identification tools must be developed to identify disadvantaged groups.

Turkish Grand National Assembly (TGNA), established a parliamentary investigation committee on 5 April, 2012 in order to identify gifted children, reveal problems related to their education and create employment opportunities in fields that will contribute to the development of our nation. The report issued by this committee emphasized that gifted students must be identified and supported at early ages as required by the principle of early education. The report also emphasized the need to use "various measurement tools, observation forms, intelligence tests, skill tests, creativity, motivation, leadership etc. which are designed according to national norms for different skill fields"(TGNA, 2012, p. 332). Additionally, 2013-2017 Strategy and Implementation Plan issued by the Ministry of National Education gave place to the concept of special talent, revealing that identifying individuals with special (superior) skills with various identification methods and providing appropriate education for their talents must be involved in sustainable government policies (Güçyeter, 2016). Before teachers fill in nomination forms, it is very important to inform them on which criteria they must assess their students (Akar and Uluman, 2013).

Researchers suggest using a more flexible and multi-dimensional approach to identify gifted students (Al-Hroub, 2010; Fetzer, 2000; Renzulli, 1990). In this approach, individually administered intelligence tests, academic achievement, creativity tests and dynamic assessments are used. Therefore, identification programs for gifted students have begun to follow a multi-dimensional approach that does not only depend on IQ scores but also other tools including systematic observations, check lists, rating scales, motivation and creativity, intellectual features (Al Hroub, 2013; Pfeiffer and Larosewich, 2008). Schroth, and Helfer (2008) carried out a study on school staff's belief in identification of gifted students and concluded that teachers' nomination methods were the second most effective identification method after performance evaluation and before standard tests (Al-Hroub, 2010 -2013- 2014).

Nomination is the first step in identification of gifted students. Any mistake that teachers might make in nomination process might result in failure to identify gifted students or deprivation of relevant support according to their skills (Akar and Akar, 2011). The first phase of identification process carried out in Science, Art and Education Centres is the teachers nominating their own students. Here, the most significant aspect is which criteria teachers resort to in the first step of identification because a criterion overlooked or neglected might cause a gifted student be eliminated before participating in identification process (Özberk and Özberk, 2016). Due to the quite detailed and long-term nature of teacher observations of children in recent years, it has been emphasized that teacher observation and resulting nomination process are very important in developing teacher observation scales and identifying gifted students. Results of studies carried out with gifted students and their teachers indicate that well structured forms filled by teachers might contribute to the process considerably (Karadağ, 2016). Teachers must be informed and become conscious about which criteria to follow in identifying students (Erişen, Birben, Yalın and Ocak, 2015). While suggesting and assessing gifted students, teachers must fill developmental and screening forms based on careful and systematic observations rather than resorting to their general views. Thus, it becomes easier to identify multi-dimensional hidden strengths which cannot be measured with ordinary intelligence tests and all student are involved in evaluation process (Yılmaz, 2015).

Aim of Study

The goal of this study is to introduce a valid and reliable observation form which will guide teachers in identification of gifted students.

Method

Research Model

The method of the study, carried out for identification of 5-9 year-old gifted students by their teachers in classroom setting, is relational screening. This study was also planned and patterned according to methodological research type.

Participants

The study was carried out with preschool teachers and class teachers employed in government preschools, kindergartens and primary schools in 2018-2019 academic period in Kırklareli province centre and Lüleburgaz and Babaeski districts. Research group includes 179 teachers and 1252 students selected among 5-9 year-old students with disproportionate cluster sampling method.

Data Collection Tools

General Data Form: General data form involves questions posed to teachers about their gender, professional experience, educational status, branch, level of their class, type of school, the number of students in their class, presence of inclusive education student and education of gifted students.

Social Skills Assessment Scale (SSAS) : Social Skills Assessment Scale (Akçamete and Avcıoğlu, 2004) was used in order to test criteria validity of TOPS and ICOF measurement tools which were used in this study. It was developed by Akçamete and Avcıoğlu (2004). The scale is a measurement tool that has 69 items assessing social skills that 7-12 year-old children with 5-Likert type scoring method between "always does" (5) and "never does" (1) and has no reverse item. Findings on validity and reliability of the scale reveal that Social Skills Assessment Scale is a valid and reliable scale that might be used to measure social skill levels of 7-12 year-old children (Akçamete and Avcıoğlu, 2004).

Marmara Primary School Readiness Scale (MPSRS) : Marmara Primary School Readiness Scale (Unutkan Ö.P. 2003) was used in order to test criteria validity of TOPS and ICOF measurement tools which were used in this study. MPSRS was developed by Unutkan (2003) in order to assess school readiness level of 5-6 year-old (60-78 months) of children who pass from preschool education to primary school. The developmental form was designed to collect data on each developmental field based on observations of teachers and parents on the child. Practice form of the scale provides data on basic academic skills by working individually with the child.

Denver Developmental Screening Test (DDST): Denver Developmental Screening Test was used in order to identify how far developmental ages of students selected with TOPS and ICOF were ahead of their chronological ages; in other words to prove the efficiency of TOPS form in selecting gifted students. DDST has four sections with 116 items which are designed to screen the following developmental fields: a) Personal-Social Field: communicating with people, meeting their personal needs, problem-solving skills, b) Linguistic Development Field: hearing, comprehension and linguistic skills, c) Fine Motor Skills: Hand-eye coordination, using small objects and d) Gross Motor Skills: Sitting, jumping and coordinated action of gross muscles in general terms.

Teacher's Observations of Potential in Students (TOPS) Form: TOPS measurement tool is a scale that helps teachers to identify potential in small children aged between 5 and 9. There are two different types of TOPS form: one is designed to observe the whole class, the other to observe a single student. Each TOPS form has instructions on its cover. The file provides examples of behaviours that gifted students might display and space is left beside to take notes of anecdotes. Back of each form is used to keep record and teachers seek for patterns that the child displays during observations (Coleman and Coltrane, 2010).

TOPS Whole Class Observation Form (WCOF) : TOPS WCOF is a form printed on blue cardboard and designed to observe all the students in the class. The front of the observation form includes items that describe the goal,

instructions and following steps. The back of WCOF provides 103 items that exemplify behaviours that are likely to be displayed by 5-9 year-old candidate gifted students in 9 fields (Coleman and Coltrane, 2010).

TOPS Individual Classroom Observation Form (ICOF): It is a form printed on yellow cardboard and designed to observe each selected student individually. Front cover of ICOF includes items that explain the goal, instructions and the following steps. The back of the observation form provides 103 items that exemplify behaviours that are likely to be displayed by 5-9 year-old candidate gifted students in 9 fields (Coleman and Coltrane, 2010).

TOPS Teacher's Assessment Form: It us a form used to assess whether 103 sample behaviours in 9 groups work in practice stage according to the results of teacher practice and observations (Coleman and Coltrane, 2010).

TOPS Child Profiles: It is the part of TOPS that includes Demographic Data of the students observed (identified) with WCOF and data related to their achievement in reading, writing, maths-science, socio-emotional development (Student Achievement Survey). In cases where TOPS measurement tool cannot be used in Child Profiles tool, there is also TOPS Form Disabilities Form for the options that students consider to be a barrier to identification of their potential (Coleman, 2016).

TOPS Form Teacher Closing Survey: It is a 10-iten survey that reflects the views of teachers on using TOPS Form at the end of the study (Sample Items: Using the TOPS Form had a revolutionary effect on my point of view to the students. TOPS Form helped me to notice students whom I would miss otherwise. etc). (Coleman, 2016).

Data Collection

For the goal of this study, relevant permission was received via e-mail to use TOPS (Teacher's Observations of Potential in Students), which was developed in the United States by Cooleman (2016) in order to identify and support gifted students. Permission to use SSAS (7-12 age) (Akçamete and Avcıoğlu, 2004) for the study was received by the author from Avcıoğlu. The author attended a seminary and received the certificate to use MPSRS (60-78 months which was developed by Polat (2003). DDST was also used with permission for the study. After completing the translation of TOPS Observation Form, permission was received from Trakya University Social and Human Sciences Research Ethics Board. After receiving the permission of ethics board, the author received permission from Kırklareli Governorship Directorate of National Education to carry out the study in the schools in 2018-2019 fall semester. Study data were collected in two stages. In the first stage, teachers were introduced and taught how to use WCOF. Then, this form was given to voluntary teachers, who were asked to observe and record all their students for four weeks according to the instructions. After four weeks, WCOF was taken from teachers who stated that they had no student meeting the form criteria and these teachers filled "General Data Form", "Teacher Item Assessment Form", "Teacher Closing Survey" and "TOPS Child Profiles Obstacles Section". In the second stage, teachers who stated that they wanted to do individual observation were given ICOF and asked to observe for four weeks each student whom they identified as gifted in Whole Class Observation form. Students who were identified with this form after four weeks were asked to fill in various forms; SSAS (7-12 years) was administered to primary school students who attended the first, second, third and fourth grades, MPSRS (60-78 months) and DDST to preschool and kindergarten students. On the other hand, teachers were asked to fill in "General Data Form", "Teacher Item Assessment Form", "Teacher Closing Survey" and "TOPS Child Profile" form. At the end of the study, list of students who passed SAECED test were received from schools and compared in order to identify the efficiency of ICOF.

Data Analysis

SPSS-22 and Mplus pack programs were used for the analysis in the study. Item analysis was carried out with SPSS and confirmatory factor analysis was carried out with Mplus in order to confirm the validity and reliability of TOPS measurement tool. Skew and kurtosis values were studied in order to check the suitability of study data to normal distribution. T test was used for two-group comparison of normally distributed quantitative data. Pearson Correlation Coefficient was used in order to identify the correlation between WCOF sub-dimensions and ICOF sub-dimensions and the correlation between SSAS sub-dimensions and MPSRS sub-dimensions. Significance level of all statistical analysis were identified according to $p<0.05$ (Statstutor, 2020).

Findings

Findings on Scope Validity:

Strict CVI value was calculated 0,97 and Relax CVI value 1.00 for all items of TOPS Whole Class Observation Form while Strict value was calculated 0.97 and Relax CVI 1.00 for all items of TOPS Individual Class Observation form. These values Show that the forms meet scope validity.

Findings on Structure Validity:

Structure validity was tested with CFA (Confirmatory Factor Analysis). CFA model was built for the structure given in TOPS Whole Class Observation Form (Figure 1). When fit index are taken as criteria, the model yielded significant results with current data ($\chi 2(23)=$ 191, 399, CFI=0.96, RMSEA=0.07 (90% CI 0.067 - 0.087), WRMR (Weighted Root Mean Square Residual) = 1.66).

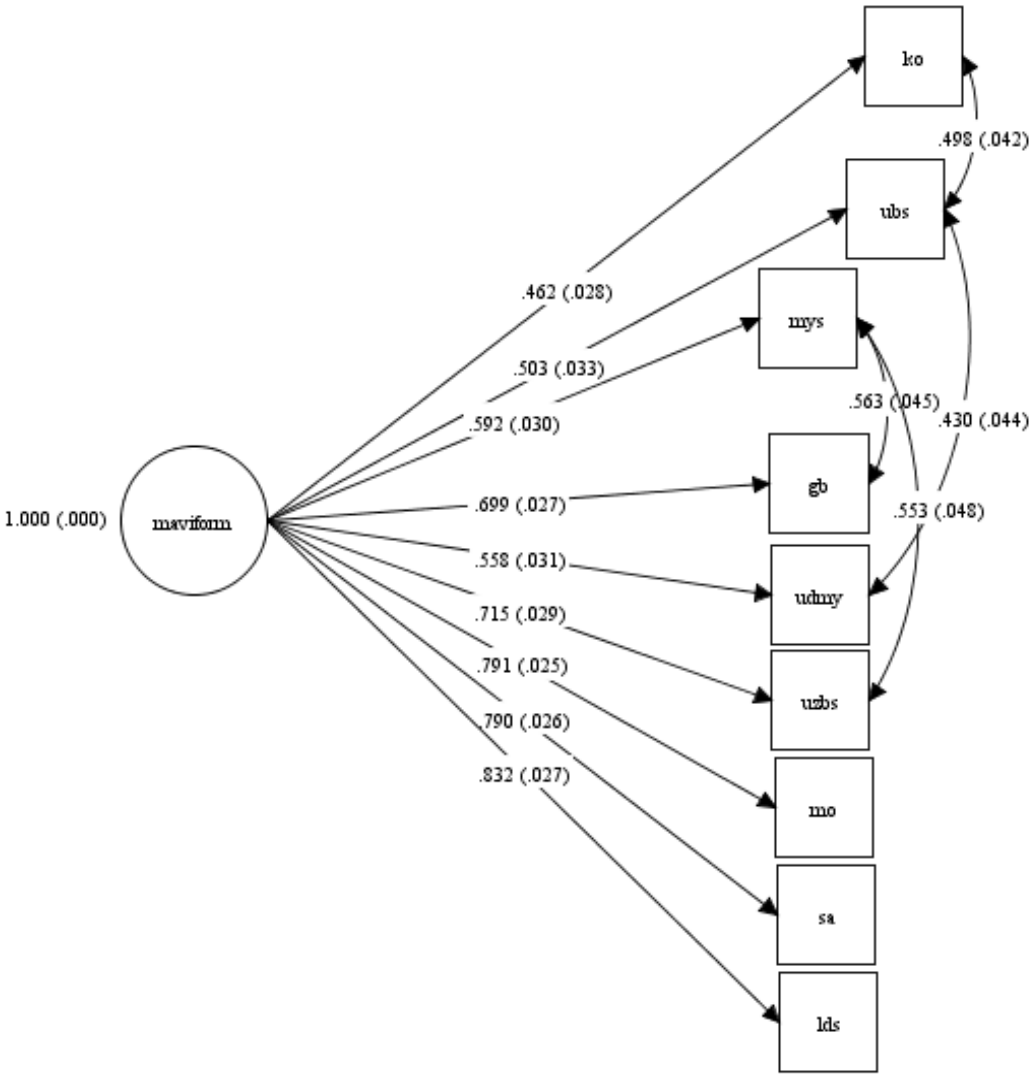

Figure 1. CFA model for TOPS Whole Class Observation Form

The model also yielded significant results with current data for TOPS Individual Class Observation Form ($\chi 2(22)=$ 144,216, CFI=0.97, RMSEA=0.09 (90% CI 0.077 - 0.106), WRMR (Weighted Root Mean Square Residual) = 1.32) (Figure 2).

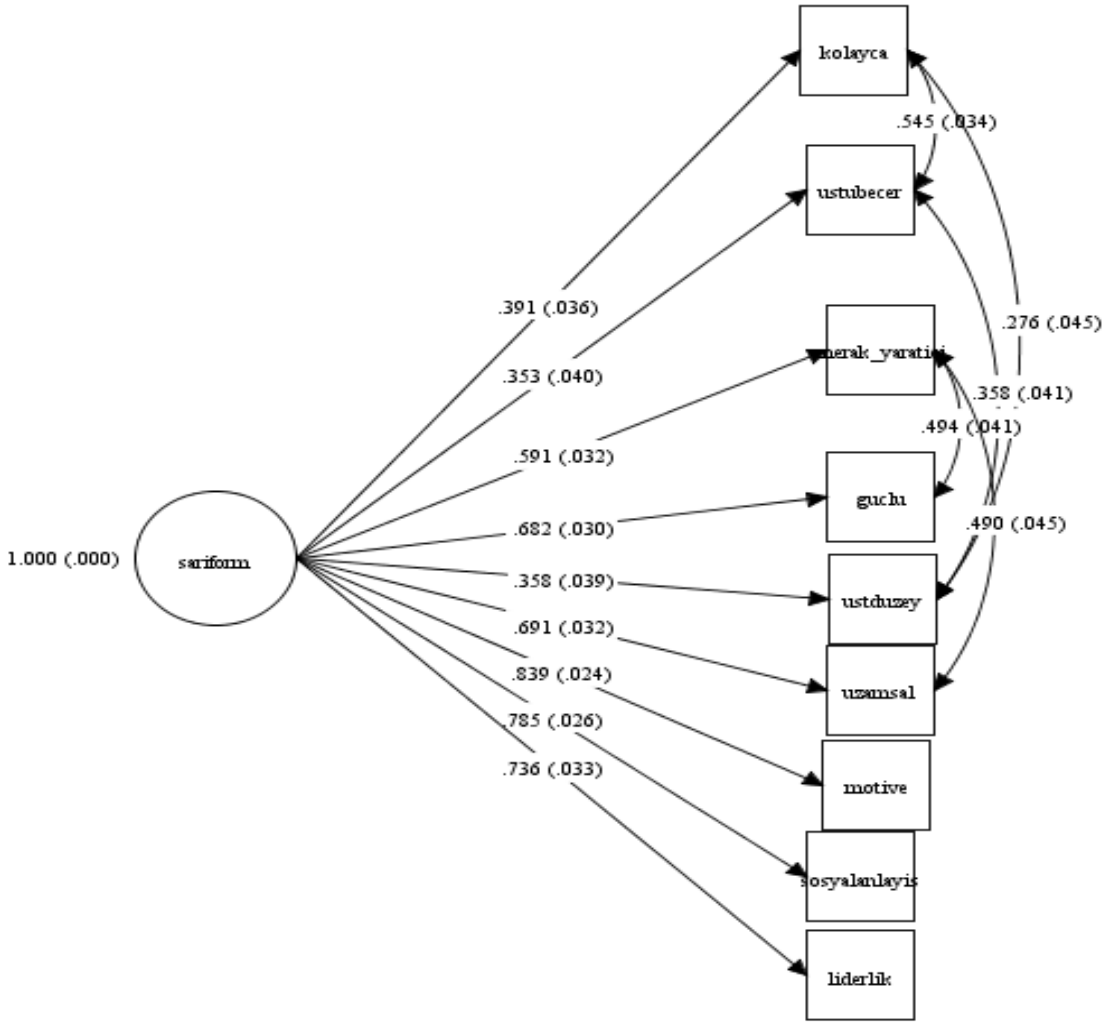

Figure 2. CFA model for TOPS Individual Class Observation Form

It is understood that sub-dimensions of TOPS Whole Class and Individual Class Observation Form are significantly correlated with each other and both forms overlap each other and meet structure validity.

It is understood that the correlation between sub-dimensions of TOPS Whole Class Observation Form ranges between.108 and .484. These results indicate that there is a moderate correlation between sub-dimensions of TOPS Whole Class Observation Form in this study. The correlation between sub-dimensions of TOPS Individual Class Observation Form ranges between .133 and .524. These results indicate that there is a moderate correlation between sub-dimensions of TOPS Individual Class Observation Form in this study. Consequently, it is understood that sub-dimensions of TOPS Whole Class and Individual Class Observation Form are significantly correlated with each other and both forms overlap each other and meet structure validity (Table 1).

Table 1. Pearson Correlation Coefficient Results Regarding the Scores of the Students Determined by the ICOF Sub-Fields of the Stu

		1	2	3	4	5	6	7	8	9	10	11	12
1 Learn Easily (**Individual**)	r	-											
	p	-											
	n	-											
2Superior Exhibitions (**Individual**)	r	,476**											
	p	,000											
	n	666											
3 Exhibitions Of Curious and Creativity (**Individual**)	r	,152**	,137**										
	p	,000	,000										
	n	666	666										
4 Have Strong Interests (**Individual**)	r	,203**	,194**	,569**									
	p	,000	,000	,000									
	n	666	666	666									
5 Exhibitions of High-Level Logic and Problem Solving Behavior (**Individual**)	r	,282**	,328**	,075	,074								
	p	,000	,000	,053	,056								
	n	666	666	666	666								
6 Spatial Skills Exhibitions (**Individual**)	r	,133**	,132**	,553**	,501**	,163**							
	p	,001	,001	,000	,000	,000							
	n	666	666	666	666	666							
7 It Is Motived (**Individual**)	r	,310**	,240**	,449**	,417**	,253**	,430**						
	p	,000	,000	,000	,000	,000	,000						
	n	666	666	666	666	666	666						
8 Social Understanding Exhibitions (**Individual**)	r	,231**	,206**	,340**	,372**	,281**	,353**	,520**					
	p	,000	,000	,000	,000	,000	,000	,000					
	n	666	666	666	666	666	666	666					
9 Leadership Behavior Exhibitions (**Individual**)	r	,213**	,227**	,287**	,317**	,255**	,327**	,444**	,524**				
	p	,000	,000	,000	,000	,000	,000	,000	,000				
	n	665	665	665	665	665	665	665	665				
10 Learn Easily (**Whole**)	r	**,773****	,377**	,128**	,158**	,139**	,103**	,256**	,209**	,208**			
	p	,000	,000	,001	,000	,000	,008	,000	,000	,000			
	n	666	666	666	666	666	666	666	666	665			
11 Superior Exhibitions (**Whole**)	r	,389**	**,702****	,093*	,138**	,233**	,074	,161**	,197**	,184**	,411**		
	p	,000	,000	,017	,000	,000	,056	,000	,000	,000	,000		
	n	666	666	666	666	666	666	666	666	665	1252		
12 Exhibitions Of Curious and Creativity (**Whole**)	r	,058	,059	**,749****	,442**	,015	,452**	,323**	,252**	,237**	,125**	,198**	
	p	,136	,125	,000	,000	,703	,000	,000	,000	,000	,000	,000	
	n	666	666	666	666	666	666	666	666	665	1252	1252	
13 Have Strong Interests (**Whole**)	r	,093*	,073	,443**	**,763****	-,009	,392**	,302**	,290**	,251**	,121**	,235**	,523**
	p	,017	,061	,000	,000	,824	,000	,000	,000	,000	,000	,000	,000
	n	666	666	666	666	666	666	666	666	665	1252	1252	1252
14 Exhibitions of High-Level Logic and Problem Solving Behavior (**Whole**)	r	,236**	,275**	,054	,068	**,745****	,097*	,231**	,283**	,241**	,246**	,400**	,174**
	p	,000	,000	,166	,080	,000	,012	,000	,000	,000	,000	,000	,000
	n	666	666	666	666	666	666	666	666	665	1252	1252	1252
15 Spatial Skills Exhibitions (**Whole**)	r	,100**	,092*	,473**	,437**	,086*	**,769****	,387**	,353**	,353**	,108**	,212**	,512**
	p	,009	,018	,000	,000	,026	,000	,000	,000	,000	,000	,000	,000
	n	666	666	666	666	666	666	666	666	665	1252	1252	1252
16 It Is Motived (**Whole**)	r	,180**	,128**	,362**	,311**	,110**	,324**	**,755****	,387**	,366**	,308**	,207**	,360**
	p	,000	,001	,000	,000	,005	,000	,000	,000	,000	,000	,000	,000
	n	666	666	666	666	666	666	666	666	665	1252	1252	1252
17 Social Understanding Exhibitions (**Whole**)	r	,088*	,121**	,227**	,265**	,162**	,214**	,357**	**,761****	,381**	,197**	,276**	,296**
	p	,023	,002	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000
	n	666	666	666	666	666	666	666	666	665	1252	1252	1252
18 Leadership Behavior Exhibitions (**Whole**)	r	,151**	,182**	,244**	,241**	,213**	,282**	,393**	,449**	**,750****	,275**	,295**	,309**
	p	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000
	n	666	666	666	666	666	666	666	666	665	1252	1252	1252

*p<.05; **p<.01

It was found that both sub-fields of TOPS measurement tools were significant and consistent with each other. This shows that both forms of the scale complete and overlap each other (Table 2).

Table 2. Standard Deviation, Mean and T-Test Results of Students' Skill Gap Scores Determined by Teachers According to WCOF Sub-Fields and ICOF Sub-Fields

	Whole* Individual**	**N**	***x***	**ss**	**t**	**sd**	**p**
Learn Easily	Whole	586	,55	,497	-4,084	1211,049	**,000*** **
	Individual	666	,66	,472			
Superior Exhibitions	Whole	586	,36	,481	-8,451	1235,492	**,000*** **
	Individual	666	,59	,491			
Exhibitions Of Curious and	Whole	586	,42	,495	-4,589	1231,192	**,000*** **
Creativity	Individual	666	,55	,497			
Have Strong Interests	Whole	586	,34	,475	-5,245	1242,489	**,000*** **
	Individual	666	,48	,500			
Exhibitions of High-Level Logic and	Whole	586	,35	,479	-7,299	1239,118	**,000*** **
Problem Solving Behavior	Individual	666	,56	,496			
Spatial Skills Exhibitions	Whole	586	,35	,479	-1,883	1237,013	,060
	Individual	666	,40	,491			
It Is Motived	Whole	586	,35	,479	-3,016	1239,360	**,003*** **
	Individual	666	,44	,496			
Social Understanding Exhibitions	Whole	586	,31	,466	-3,947	1244,071	**,000*** **
	Individual	666	,42	,494			
Leadership Behavior Exhibitions	Whole	586	,31	,463	-3,021	1243,060	**,003*** **
	Individual	666	,39	,488			

* TOPS Whole Class Observation Form; ** TOPS Individual Class Observation Form; ***p< 0.01

Findings on Criterion Validity:

Considering the correlation between sub-dimension of TOPS ICOF and MİHÖ scale, it is understood that both scales are consistent with each other and have an acceptable level of criterion validity (Table 3).

Table 3. Pearson Correlation Coefficient Results of Pearson Correlation Coefficients of Students' MPSRS Sub-Dimensional Scores D

		1	2	3	4	5	6	7	8
1 M Mental development and language development	r	-							
	p	-							
	n	-							
2 M Socio-emotional development	r	**,645****							
	p	,000							
	n	48							
3 M Physical development	r	**,415****	**,477****						
	p	,003	,001						
	n	48	48						
4 M Self care skills	r	**,401****	**,456****	**,891****					
	p	,005	,001	,000					
	n	48	48	48					
5 Learn Easily	r	,062	-,110	,131	,111				
	p	,675	,456	,375	,451				
	n	48	48	48	48				
6 Superior Exhibitions	r	,222	**,301***	**,379****	**,301***	,305*			
	p	,129	,038	,008	,037	,035			
	n	48	48	48	48	48			
7 Exhibitions Of Curious and Creativity	r	,222	**,347***	**,325***	,220	,220	,413**		
	p	,130	,016	,024	,132	,133	,004		
	n	48	48	48	48	48	48		
8 Have Strong Interests	r	**,301***	,273	,257	,236	-,066	,642**	,483**	
	p	,038	,060	,078	,107	,658	,000	,001	
	n	48	48	48	48	48	48	48	
9 Exhibitions of High-Level Logic and Problem Solving Behavior	r	,117	**,285***	**,315***	,191	,070	,588**	,456**	,527**
	p	,429	,050	,029	,193	,635	,000	,001	,000
	n	48	48	48	48	48	48	48	48
10 Spatial Skills Exhibitions	r	,069	,201	**,354***	,232	,185	,671**	,549**	,600**
	p	,640	,170	,014	,113	,208	,000	,000	,000
	n	48	48	48	48	48	48	48	48
11 It Is Motived	r	,200	**,384****	**,398****	,284	,210	,645**	,539**	,391**
	p	,172	,007	,005	,051	,152	,000	,000	,006
	n	48	48	48	48	48	48	48	48
12 Social Understanding Exhibitions	r	,186	**,338***	,277	,185	,117	,469**	,525**	,482**
	p	,206	,019	,056	,209	,430	,001	,000	,001
	n	48	48	48	48	48	48	48	48
13 Leadership Behavior Exhibitions	r	,096	,198	**,299***	,205	,304*	,487**	,573**	,400**
	p	,516	,177	,039	,163	,036	,000	,000	,005
	n	48	48	48	48	48	48	48	48

*p<.05; **p<.01

It was found that there is a consistency between several sub-dimensions of TOPS Individual Class Observation Form and Social Skil identify the criterion validity of TOPS Individual Class Observation Form, which shows that criterion validity is at an acceptable level (Ta

Table 4. Pearson Correlation Coefficient Results of Pearson Correlation Coefficients of Students' SSAS Sub-Dimensional Scores Dete

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Basic Social Skills	r	-													
	p	-													
	n	-													
2 Basic Speaking Skills	r	**,387****													
	p	,000													
	n	410													
3 Advanced Speaking Skills	r	**,246****	**,413****												
	p	,000	,000												
	n	410	410												
4 Interaction Starting Skills	r	**,246****	**,273****	**,509****											
	p	,000	,000	,000											
	n	410	410	410											
5 Interaction Sustaining Skills	r	**,260****	**,434****	**,357****	**,468****										
	p	,000	,000	,000	,000										
	n	410	410	410	410										
6 Group Work Skills	r	**,497****	**,230****	**,224****	**,205****	**,252****									
	p	,000	,000	,000	,000	,000									
	n	410	410	410	410	410									
7 Emotional Skills	r	**,146****	**,175****	**,248****	**,468****	**,426****	,027								
	p	,003	,000	,000	,000	,000	,587								
	n	410	410	410	410	410	410								
8 Self-control Skills	r	**,170****	**,243****	**,396****	**,310****	**,270****	**,137****	**,303****							
	p	,001	,000	,000	,000	,000	,005	,000							
	n	410	410	410	410	410	410	410							
9 Accepting Results	r	,027	,061	**-,143****	-,071	-,015	,060	**-,142****	-,029						
	p	,582	,215	,004	,151	,764	,225	,004	,555						
	n	410	410	410	410	410	410	410	410						
10 Giving Instructions	r	**,340****	**,467****	**,197****	**,371****	**,349****	**,320****	,079	,096	**,182****					
	p	,000	,000	,000	,000	,000	,000	,112	,052	,000					
	n	410	410	410	410	410	410	410	410	410					
11 Cognitive Skills	r	-,029	,013	,035	**,197****	**,251****	-,080	**,380****	**,139****	**-,115***	,038				
	p	,560	,787	,482	,000	,000	,106	,000	,005	,020	,443				
	n	410	410	410	410	410	410	410	410	410	410				
12 Learn Easily	r	,006	-,008	-,041	,035	,054	-,043	,062	,027	**-,178****	-,036	**,116***			
	p	,909	,865	,405	,482	,272	,390	,207	,587	,000	,472	,019			
	n	410	410	410	410	410	410	410	410	410	410	410			
13 Superior Exhibitions	r	,006	-,005	,024	,006	-,036	-,034	-,021	,028	-,070	-,068	,049	,476**		
	p	,911	,913	,625	,905	,463	,495	,677	,574	,156	,167	,321	,000		
	n	410	410	410	410	410	410	410	410	410	410	410	666		
14 Exhibitions Of Curious and Creativity	r	,040	-,060	,059	,056	-,055	-,093	**,118***	,005	**-,207****	-,060	**,148****	,152**	,137**	
	p	,422	,227	,234	,256	,267	,060	,017	,916	,000	,224	,003	,000	,000	
	n	410	410	410	410	410	410	410	410	410	410	410	666	666	
15 Have Strong Interests	r	,069	**-,100***	,031	-,007	-,034	-,071	,050	-,017	**-,245****	-,052	,083	,203**	,194**	,569**
	p	,161	,044	,529	,890	,489	,150	,309	,727	,000	,292	,092	,000	,000	,000
	n	410	410	410	410	410	410	410	410	410	410	410	666	666	666
16 Exhibitions of High-Level Logic and Problem Solving Behavior	r	-,003	,023	-,023	,089	,062	-,081	,083	-,002	**-,114***	-,056	**,154****	,282**	,328**	,075
	p	,947	,641	,648	,071	,209	,101	,092	,961	,021	,259	,002	,000	,000	,053
	n	410	410	410	410	410	410	410	410	410	410	410	666	666	666
17 Spatial Skills Exhibitions	r	,018	**-,126***	-,008	,040	-,030	-,083	**,127***	,005	**-,231****	**-,170****	**,118***	,133**	,132**	,553**
	p	,719	,011	,869	,420	,540	,092	,010	,923	,000	,001	,017	,001	,001	,000
	n	410	410	410	410	410	410	410	410	410	410	410	666	666	666
18 It Is Motived	r	,018	-,032	**,099***	,085	,000	-,072	**,128****	**,133****	**-,270****	-,082	**,168****	,310**	,240**	,449**
	p	,720	,518	,044	,087	,995	,146	,009	,007	,000	,096	,001	,000	,000	,000
	n	410	410	410	410	410	410	410	410	410	410	410	666	666	666
19 Social Understanding Exhibitions	r	,084	,050	,039	,056	,032	,007	**,113***	,054	**-,147****	,004	**,198****	,231**	,206**	,340**
	p	,090	,308	,425	,256	,515	,889	,022	,278	,003	,941	,000	,000	,000	,000
	n	410	410	410	410	410	410	410	410	410	410	410	666	666	666
20 Leadership Behavior Exhibitions	r	,073	**-,042**	,078	,000	-,011	,001	**,180****	,058	**-,181****	-,069	**,164****	,213**	,227**	,287**
	p	,139	,398	,115	,993	,821	,992	,000	,239	,000	,164	,001	,000	,000	,000

n	409	409	409	409	409	409	409	409	409	409	409	665	665	665

*p<.05; **p<.01

Findings on Inner Consistency

Analysis in this study includes calculation of Cronbach alpha coefficient of TOPS measurement tool both for WCOF and ICOF. Inner consistency coefficient Cronbach Alpha was found (α=0.798). Inner consistency coefficient Cronbach alpha was found (α=0.792) for nine sub-dimensions of ICOF. Thus, analysis for both WCOF and ICOF indicate that the measurement tool is reliable (Ayre and Scally, 2014; Yeşilyurt and Çapraz, 2018).

When teachers who are involved in the study do not use TOPS form, they fill in TOPS Form Obstacles Survey about obstacles that prevent them from identifying students' potential. When general distribution of their responses to the survey are analysed, it is remarkable that most of the teachers (86.2 %) state that current measurement tools are insufficient in identifying gifted students (Table 5).

Table 5. The Distribution of the Responses to the TOPS Child Profiles Obstacles Section Regarding the Options that Students See as Barriers in Identifying Their Potential in Case Teachers Do Not Use the TOPS Form

TOPS Child Profiles Obstacles Section	Yes		No	
	n*	%	n*	%
Behavior *(child's socio-emotional behaviors, mobility - asking a lot of questions - talking - disturbing her friends, etc).*	300	44,1	381	55,9
Demographic elements *(poverty, race, marital status of parents, status, occupation, socio-economic status, etc.)*	77	11,3	604	88,7
Current measurement tools *(limitation or inadequacy of available detection and diagnosis tools for gifted students)*	**587**	**86,2**	**94**	**13,8**
Low expectation *(-if any- previous teachers had low expectations for the child)*	376	55,2	305	44,8
Lack of parental support *(lack of socio-economic and emotional support of the family)*	512	75,2	169	24,8
Success so far *(academic success/failure to date)*	451	66,2	230	33,8
Verbal language *(child's mother tongue being different, not being understood due to dialectal or linguistic differences)*	72	10,6	609	89,4

**Total number of teachers participating in the study (n= 681)*

Findings on the Efficiency of Teacher's Observation of Potential in Students (TOPS) Form that Teachers Use to Identify Gifted Students:

It is remarkable that developmental age of five year-old students who are considered to be gifted by their teachers who use ICOF are two years ahead of their calendar age according to the DDST. This show that TOPS is a suitable measurement tool for identifying gifted students.

According to the findings on Table 6; TOPS Form works well in this field both because all primary school students selected by teachers with TOPS passes the "Science, Art and Education Centre Entrance Test" and preschool children selected with TOPS displayed a remarkable performance in DDST (Table 6).

Table 6. Frequency Information on the Success Status of the Students Selected as High Potential by the Teachers using ICOF in the 2018/2019 Academic Year in the SAECET Exam

Province/ county	School Code	Teacher Code	Number of students in the class *	Number of students selected with WCOF	Number of students selected with ICOF	Students Successful in the SAECED Exam		
						Number	Student Class	Student Code
Kirklareli City Centre	A1	M.A.	25	6	6	1	2	E.M.İ
	A1	M.K.	29	13	6	1	2	E.D.D
	A1	H.B.	35	7	7	1	3	M.E.P
	A1	Z.G.	32	18	5	1	3	B.S.S.
	A2	F.M.	27	5	1	1	3	B.E.G
	A2	M.C.	28	6	3	3	2	E.A.Z-Y.G.C.-E.A.P
	A2	İ.B.	27	16	10	2	1	C.D.-E.Ç
	A2	N.T.	29	10	10	1	1	E.D.G.
	A3	S.G.	22	10	4	1	3	M.P.S
	A3	B.Ç.C.	24	7	1	1	3	E.R.
	A3	S.A.	26	10	8	2	1	N.K.A-Z.S.P.
	A3	E.K.	24	12	1	1	2	S.T.A.
	A4	B.G.	21	13	2	1	3	B.Ö.
Babaeski District	A5	Y.İ.	24	5	3	2	2	B.Y.B.-Z.S.
	A5	H.O.	26	12	5	2	2	A.G.-A.E.
	A5	A.B.	25	12	7	3	3	A.O.-K.Ö.-Ü.D.Y
	A5	M.S.A.	23	9	4	1	3	E.T.S.
Lüleburgaz District	A6	G.Ö.	30	30	4	4	1	E.Ç.-A.A.A.-A.B.-Ç.T.C.
	A6	Y.A.	33	18	16	1	2	T.D.G.
	A6	F.O.	36	30	6	1	3	Ö.B.
	A6	Ö.F.	38	9	4	1	3	E.E.P.
	A6	F.D.	35	17	3	1	3	A.E.F.
	A7	Ş.K.	30	5	5	2	1	D.E.-M.E.İ.
	A7	A.D.	31	8	5	2	2	Ç.E.G.- R.T.M.
	A7	R.D.	26	14	14	1	3	K.Ö.
	A7	K.B.	23	18	11	1	3	D.B.T.
	A8	H.K.	23	16	15	1	2	Ş.K.
	A8	S.Ş.	22	14	14	1	3	M.A.K.
Total			**774***	**350**	**180**	**41**		

Conclusion

This study was carried out for identification of 5-9 year-old candidate gifted students by teachers. Another goal of the study is to check validity and reliability of TOPS form, which is considered to be effective in selecting gifted students. To ensure that TOPS measurement tool meets scope validity, it must meet linguistic validity to the target culture first of all. After finding scope validity rate (SVR), mean value of SVR was taken to identify scope validity index (SVI) (Yeşilyurt and Çapraz, 2018). After calculating SVR values, Strict CVI value was found 0,97 and Relax CVI value 1.00 for all items of TOPS Whole Class Observation Form while Strict value was found 0.97 and Relax CVI 1.00 for all items of TOPS Individual Class Observation form. In other words, these values show that it has scope validity. Structure validity of

TOPS measurement tool was tested with CFA (Confirmatory Factor Analysis) technique. When fit index are taken as criteria, the model yields significant results with current data ($\chi 2(23) = 91, 399$, CFI=0.96, RMSEA=0.07 (90% CI 0.067 - 0.087), WRMR (Weighted Root Mean Square Residual) = 1.66). The correlation between sub-dimensions of TOPS Whole Class Observation Form ranges between.108 and .484. Büyüköztürk (2010) defines correlation between .70 and .1 as strong correlation while correlation between .30 and .70 as moderate correlation. Taking these views into account, we might say that there is a moderate correlation between sub-dimensions of WCOF in this study. On the other hand, the correlation between sub-dimensions of TOPS Individual Class Observation Form ranges between ,133 and ,524, which shows that there is a moderate correlation between sub-dimensions of ICOF in this study. Correlation between sub-dimensions of WCOF and ICOF was checked in order to identify inner-test consistency between WCOF and ICOF. An analysis of the correlation between sub-dimensions of the two measurement tools shows that their correlation ranges between 702 and .773. Büyüköztürk (2010) defines correlation between .70 and .1 as strong correlation while correlation between .30 and .70 as moderate correlation. Taking these views into account, we might say that there is a strong correlation between sub-dimensions of WCOF and ICOF.

It is accepted that the measurement tool has criterion validity if scores of students identified within the whole class is significantly higher than scores of individually identified children (Ercan, and Kan, 2004). In other words, it was found that sub-skill differences of both forms (WCOF and ICOF) of TOPS measurement tool were significant and sub-fields of both form were consistent with each other. It was concluded that sub-fields of both forms of Turkish version overlapped each other and had acceptable criterion validity.

When the correlation between sub-dimensions of TOPS Individual Class Observation Form and sub-dimensions of SSAS was analysed in order to identify the criterion validity of the form, it was found that the correlation level ranged between .000 and .231. According to Statstutor (2020), coefficients between ,00 and 19 obtained with significant findings in correlation analysis indicate a very poor correlation while values between ,20 and ,39 indicate a poor correlation, values between ,40 and ,59 moderate correlation, values between ,60 and ,79 strong correlation and values ,80 and 1,0 indicate a very strong correlation. According to these results, several sub-dimensions of ICOF and sub-dimensions of SSAS used for identifying the criterion validity of ICOF are consistent and criterion validity is at an acceptable level. Considering the correlation between sub-dimensions of TOPS Individual Class Observation Form and MPSRS sub-dimensions, it was found that their correlation ranged between .285 and .398. According to these results, there is a consistency between sub-dimensions of TOPS Individual Class Observation Form and sub-dimensions of MPSRS and criterion validity was acceptable. Ecological Validity might be defined as the extent to which test performance reflects and predicts real life behaviours (Salkind, 2010). ; the fact that all primary school students selected by teachers with TOPS passed the "Science, Art and Education Centre Entrance Test" and preschool children selected with TOPS displayed a remarkable performance in DDST shows that this measurement tool has ecological validity. Inner consistency coefficients were re-calculated in order to identify the reliability of all measurement tools used in this study. Reliability of TOPS measurement tool was tested with inner consistency coefficient. Inner consistency coefficient, used in studies to estimate reliability coefficient, includes reliability estimation by working the measurement tool once (Şencan, 2005). Thus, inner consistency coefficients (Cronbach's Alpha) of sub-dimensions of SSAS were found; Basic Social Skills (α=0,980); Basic Speaking Skills (α=0,948); Advanced Speaking Skills (α=0,931); Interaction Starting Skills (α=0,913); Interaction Sustaining Skills (α=0,896); Group Work Skills (α=0,999); Emotional Skills (α =0,783); Self-control Skills (α=0,937); Coping with Aggressive Behaviours (α=0,393); Accepting Results (α=0,826); Giving Instructions (α =0,873) and Cognitive Skills (α=0,826), respectively. On the other hand, inner consistency coefficients of MPSRS sub-dimensions were found; Mental Development and Linguistic Development (α=0,956); Socio-emotional Development (α=0,903); Physical Development (α=0,849); Self-care Skills (α=0,966), respectively. Consequently, the study results indicate that inner consistency coefficients of both measurement tools, which were used to test criterion validity, were suitable for the purpose of t this research. Inner consistency coefficient Cronbach's alpha was found (α=0.798) for nine sub-dimensions of TOPS Whole Class Observation Form. Inner consistency coefficient Cronbach's alpha was found (α=0.792) for nine sub-dimensions of TOPS Individual Class Observation Form. According to the

analysis results in this study, it is possible to say that both WCOF and ICOF are reliable measurement tools (Ayre and Scally, 2014; Yeşilyurt and Çapraz, 2018).

Consequently, these observation forms which were adapted to Turkish are considered to encourage development of other tools such as scale, form in Turkey, where there is a lack of tools to identify gifted students. Valid and reliable forms used for identifying gifted students are expected to contribute to the fields. Moreover; as psychometric features of TOPS are quite adequate in meeting relevant criteria, we might say that the TOPS form can be used in researches and analyse gifted students in the context of many variables and contribute to the fields.

Acknowledgment

We would like to thank all the teachers who did not spare their help and support during the implementation process and agreed to participate in the research in the schools included in the research. This research was approved by Trakya University Social and Human Sciences Research Ethics Committee with the decision dated 12.09.2018 and decision number 2018.08.11.

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