



EXAMINATION OF STUDENT'S INTERESTS AND LEARNING PREFERENCES THROUGH TOTAL TALENT PORTFOLIO

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Abstract

The purpose of this study is to adapt the Total Talent Portfolio used in the Schoolwide Enrichment Model into Turkish and to examine the interests and learning preferences of 4th graders according to this portfolio. The study was conducted with the participation of 46 4th graders, 46 parents and 2 classroom teachers from Amasya. The data of this study which used descriptive research methods were analyzed through frequency and percentages. It was found that most of the students in the study group had great interest in science subjects, experiments and trip/observation activities. Within the context of the study, it was found that most of the students preferred the activities of experimenting, taking part in educational games, listening to speakers and using computers while learning something new. The results of the study showed that the Turkish version of Total Talent Portfolio was a reliable tool to be used in finding out the interests and learning preferences of primary students through multiple assessments. Further studies can develop different activities by using the total talent portfolio and analyze the effects of these.

Keywords: Interest, learning preference, total talent portfolio, primary students.

INTRODUCTION

Individuals are different from each other in terms of social, psychological, cultural and mental characteristics. Besides these differences, every individual has different interests, abilities, needs, developmental characteristics and learning methods. All these distinctive characteristics of an individual are defined as individual differences (Şahin, 2015). Describing the individual differences of students requires examining them in terms of various aspects (Aktepe, 2005). Detailed analysis of students' characteristics in education is possible with individual recognition techniques. Individual recognition can be defined as the process of collecting students' information systematically and consistently with the help of various tools/techniques, recording the information and making a significant and reliable decision by combining these (MEB, 2006). Recognizing and assessing the individual is important in terms of planning and presenting educational environments suitable for the individual. Students' interests and needs should be found through suitable techniques and their interests and abilities should be developed in schools (Olszewski-Kubilius & Thomson, 2015). Renzulli (2005) stated that schools should be places in which all students' abilities are developed and suggested that Schoolwide Enrichment Model environments suitable for their interests and talents, learning styles and preferences. In order to be able to present students could be adopted in places where traditional methods are used and there are disadvantageous student populations. Through "Total Talent Portfolio" in Schoolwide Enrichment Model, students' strengths such as their interests,

talents and learning styles are analyzed and assessed (Renzulli, 2014; Renzulli & Reis, 2014; Renzulli & Renzulli, 2010).

Total Talent (TT) portfolio is structured with the questions "What are the strengths of students and how can we record this information? How can we use this information in the best way to develop students' talents? (Renzulli, 2000). The general purpose of this portfolio is to bring together in a file the information about students' strengths such as their interests, talents and learning styles (Renzulli, 2014; Renzulli & Reis, 2014) and to use this information in providing special services, enrichment groups and while making differentiated education plans in regular classes (Renzulli, 2000). TT portfolio can also be used in Renzulli Learning System, which consists of an internet based online student information system based on Schoolwide Enrichment Model (Renzulli & Reis, 2007). This system helps students to store their projects, images, internet connections, compositions and other studies. Thus, teachers and families can follow the developmental process of the children from this online portal (Renzulli, 2014). In the related literature, Renzulli & Reis have stated that TT portfolio is used as a data collection tool in stages of determining the services students should make use of such as special education, identification and assessing the gifted students. Renzulli and Reis (2007) stated that TT portfolio provides teachers information about the individual characteristics of students and this portfolio helps teachers in planning activities enriched according to students' interests and talents. In addition, it has been emphasized in this study that TT portfolio may help teachers, families, guidance services in making decisions about secondary school, high school and university choices and students in career development. Renzulli and Reis (2014) also stated that the information obtained from TT portfolio could be used in preparing individual education program.

METHOD

Research Design

Descriptive model was used in this study. In descriptive model, the current state of a subject is analyzed. Descriptive researchers are grouped in two as self-transference studies and observation studies (Özdamar, 1999). Self-transference research data were used in this study since information was taken from the students in the study group. In order to take information from different sources about the existing state and to analyze consistency, parent and teacher assessments were also analyzed as well as student assessments.

Participant

The study was conducted with the participation of 46 4th graders, 46 parents and 2 class teachers from Amasya.

Research Instrument

As data collection tool, Total Talent Portfolio (Purcell & Renzulli, 1998) used in the Schoolwide Enrichment Model was used in the study (Gentry & Mann, 2008). TT portfolio categories are; subject areas, interest areas, learning styles, styles of sharing, environment, working with others, personality perceptions, hobbies/activities, short/long term targets. This portfolio which has ranking, 3 or 4 graded and open-ended question types consists of three parts. In the first part, students assess themselves according to TT portfolio categories. In the second part, parents assessed their children according to TT portfolio categories. 1st and 2nd part portfolio items consist of the Turkish adapted form of Total Talent Portfolio (Cited from Gentry & Mann, 2008, Purcell & Renzulli, 1998). After TT portfolio items were translated into Turkish, they were applied on a small student group as pre-application. Within the context of adaptation, current subject area names were revised in the portfolio, the number of interest areas were increased and the responses of the items in this category were transformed into 3 Likert type as "not interested (1), somewhat interested (2), very interested (3)" because it was found in pre-application that some students had difficulties in ranking their interest areas and wanted to put a few interest areas in the first place. The 5 choices related to the learning environment in the original portfolio were decreased to 3 choices. For example, in the Turkish adaptation of the learning environment category, the light category was given as "there should be soft

light, it should be light but not too bright, it should be very light". An expert's opinion was taken about whether the related changes were suitable or not. In the third part prepared by the researchers, there are questions for teachers to assess the students about subject areas, interest areas, learning styles, working with others, personality characteristics, hobbies/activities, short/long term targets. For example, there are teacher assessments in this part such as: for the following activities, number the one your student loves the most with 1 and the second most loved one with 2. Similar to the other parts, this part has ranking items, 3 likert type items and open-ended questions.

As a conclusion, the TT portfolio which consists of 3 parts has 14 items (10 categories) for student assessment, 11 items (8 categories) for parent assessment and 13 items (8 categories) for teacher assessment. The pilot application of the portfolio was conducted with a total of 45 students, 45 parents and 2 classroom teachers in a state school of Amasya. At the end of pilot applications, the reliability value of interest areas category in student assessment was found as 0.80 in SPSS program (Table 1).

The results of expert assessments show that TT portfolios are reliable tools that can be used in the multiple assessment of individual differences such as interests and learning style.

Table 1: Student Responses of Interest Areas

	i1	i2	i3	i4	i5	i6	i7	i8	i9	i10	i11	i12		i1	i2	i3	i4	i5	i6	i7	i8	i9	i10	i11	i12	
S1	3	3	2	3	3	2	3	3	3	2	2	3	S23	3	2	3	1	3	3	2	3	3	3	2	3	
S2	3	3	2	3	3	2	3	2	2	2	3	3	S24	2	3	3	3	3	2	3	2	3	2	3	2	
S3	2	1	1	1	1	1	1	1	1	2	1	1	S25	2	2	3	1	2	2	3	1	2	1	1	2	
S4	2	3	2	2	3	1	3	3	2	2	3	2	S26	2	1	2	1	1	3	2	3	3	3	2	2	
S5	3	2	2	3	2	3	2	3	3	2	3	3	S27	3	3	3	3	3	3	3	3	3	3	3	3	
S6	2	1	3	3	3	3	3	3	3	1	3	3	S28	2	3	2	2	2	1	2	3	3	3	2	2	
S7	2	1	1	2	3	3	3	3	2	1	3	1	S29	3	1	3	2	1	3	2	3	1	2	2	3	3
S8	3	2	2	2	3	3	3	3	2	3	3	3	S30	3	3	3	3	3	3	3	2	3	3	3	3	
S9	3	2	2	3	3	3	3	3	3	3	3	3	S31	3	3	2	2	2	2	2	1	1	2	3	3	
S10	3	1	2	2	1	2	1	3	2	1	3	2	S32	2	1	2	1	1	2	3	1	2	1	1	2	2
S11	3	2	3	2	3	2	3	2	2	3	3	3	S33	2	1	2	3	3	2	2	2	3	2	3	2	2
S12	2	1	3	1	3	3	1	3	2	3	3	1	S34	3	2	2	2	2	2	2	1	2	2	1	3	3
S13	3	3	3	3	3	2	3	2	2	2	3	3	S35	3	2	2	2	2	3	3	3	3	3	3	3	3
S14	3	1	3	1	2	3	2	3	1	3	3	2	S36	3	2	3	1	1	3	2	3	1	3	1	1	3
S15	2	1	1	1	1	2	2	1	2	2	1	1	S37	2	2	3	3	3	3	3	2	2	3	3	2	2
S16	2	2	2	3	2	3	3	3	3	2	2	2	S38	2	1	3	1	1	1	2	1	2	2	3	3	2
S17	3	1	2	1	1	3	3	3	3	3	3	2	S39	3	2	2	3	3	3	2	3	2	2	2	3	3
S18	3	2	3	3	3	3	3	3	3	3	3	3	S40	3	1	2	3	3	1	3	1	1	2	2	3	3
S19	3	2	2	3	3	1	3	2	2	1	1	1	S41	2	1	3	2	3	3	2	1	2	1	1	1	2
S20	3	2	3	3	3	3	3	3	2	3	3	3	S42	1	2	1	2	3	2	3	1	3	1	1	3	1
S21	3	2	3	3	2	3	3	3	1	3	3	3	S43	2	1	2	1	3	2	3	1	3	2	1	2	2
S22	3	2	3	1	3	3	2	1	3	2	3	3	S44	3	3	2	3	3	2	3	3	2	2	3	3	3
													S45	2	2	3	2	2	2	3	2	3	3	3	2	2

(I1: drawing, I2: making video , I3:story, article, creative writing, I4: dancing, I5: singing, I6: researching historical events, I7: listening to music, I8: conducting science experiments, I9: technology,computer, I10: interest in subjects such as the Earth, the Sun, the Moon and space ,I11: trip and observations, I12: acting)

When Table 2 is examined, it can be seen that 60% of the students stated that they were very interested in activities of scientific experiments, trip/observations,listening to music, 58% were interested in singing and acting, 57% were interested in drawing. 36% of the students stated that they were not interested in activities of making videos and 29% were not interested in dancing activities. When teacher assessments of students' interest areas are examined, it can be seen that of the students, 16% are interested in scientific experiments, 15% are interested in technology and computers, 13% are interested in drawing, 13% are interested in creative writing, 12% are interested

in music, 12% are interested in history, 8% are interested in geography, 6% are interested in dancing and 5% are interested in acting according to teachers. In technology and computers, 13% are interested in music, 12% are interested in drawing, 12% are interested in acting, 9% are interested in creative writing, 9% are interested in history and 8% are interested in geography according to parents. After students learned something new, 88% have positive attitude towards doing tests and 84% had positive attitude towards doing worksheets.

69% students want to form a model after learning something new and while 64% want to draw picture or graph. More than half of the students (51.1%) are undecided about sharing things about learning.

FINDINGS AND DISCUSSION

The responses related to subject areas, interest areas and learning styles in TT portfolio were examined in percentages and frequencies. Table 2 gives student responses for interest areas and Table 3 gives student responses for subject areas.

Table 2: Student Assessments of Interest Areas

	Interest Areas	Not interested		Somewhat interested		Very interested	
		f	%	f	%	f	%
Student assessment	Drawing	1	2	18	40	26	57
	Making video	16	36	20	44	9	20
	Writing story, article and poem	4	9	21	47	20	44
	Dancing	13	29	13	29	19	42
	Singing	9	20	10	22	26	58
	Researching historical events	6	13	15	33	24	53
	Listening to music	3	7	15	33	27	60
	Making scientific experiments	9	20	9	20	27	60
	Technology/computer	9	20	19	42	17	38
	Reading about the earth, sun, moon, space	8	18	18	40	19	42
	Trip & observation	9	20	9	20	27	60
	Acting	8	18	11	24	26	58

Table 3: Student Assessments of Subject Areas

	Subject Areas	Negative attitude		Undecided		Positive attitude	
		(f)	%	(f)	%	(f)	%
Student assessment	Turkish	-	-	7	16	39	87
	Mathematics	-	-	4	4	42	93
	Music	2	2	9	20	35	78
	Science	-	-	6	16	40	89
	Visual arts	2	2	8	18	36	80
	Social Sciences	-	-	9	20	37	82
	Physical Education	-	-	2	4	44	94
	English	5	9	13	29	28	62

When Table 3 is examined, it can be seen that most of the students had positive attitudes towards physical education (94%), mathematics (93%), and science (89%), while 38% were undecided or had negative attitudes towards English. Students' interests are different from each other. Profile cards were made for each student in order to be able to use the information obtained more efficiently.

When student assessments of learning styles are examined, it can be seen that the methods through which the students think they learn the best are experiments (15%), instructive games (13%), speakers (13%), computers (13%) and reading (11%) activities. 10% of the students prefer learning with video, 9% prefer working together, 7% prefer learning through cd/tape. When parent

assessments of students' interest areas are examined, it can be seen that of the students, 15% are interested in scientific experiments.

When the parent assessments are examined, it can be seen that according to parents, when students learned new things, 16% preferred to learn with experiments, 14% preferred to learn with reading, preferred to learn with instructive games, 12% preferred to learn with computer, 10% preferred to learn by working together, 9% preferred to learn with speakers, 5% preferred to learn with video, 8% preferred to learn by watching others and 8% preferred to learn with cd/tpe.

When teacher assessments of students' learning styles are examined, it can be seen that, according to teachers, 16% of the students preferred to learn through reading, 16% with instructive games, 15% with experiments, 12% with computers, 9% with video, 9% by working together, 9% with speakers, 8% with cd/tape and 6% by watching others.

Table 4 are given the profile card of the student named S1 who was chosen randomly.

Table 4: Profile Card of the Student Named S1

	Student assessment	Parent assessment	Teacher assessment		Student assessment	Parent assessment	Teacher assessment
Interest areas	Drawing, scientific experiments, trip/observation, mathematics, science	Books on jokes, drawing, scientific experiments	Drawing, scientific experiments, creative writing, theatre, science	Working style	Loves to work with an adult	My child does not like working alone	Loves to work with an adult
Learning Styles	Reading, computer activity, experiments, watching video	Experiments, working together, computer activity	Experiments, working together, computer activity, instructive games	Personality description	Defined herself as gentle and intelligent	Talkative, asks too many questions, humorous, expresses herself well.	Cheerful, hardworking, leader, emotional
Styles of sharing	The student likes to share learning products by: acting, making a model, drawing pictures or graphs, explaining and discussing, answering tests (Student assessment)			Short/long term targets	Making experiments, drawing, reading, playing chess, taking journeys	Reading books, puzzles and journey books, reading, running, swimming, drawing dresses, watching the TV program named science in the backyard	running, swimming, doing sports
Environment	Continually quiet, light but not very bright and warm learning environment (Student assessment)			Hobbies, activities	To get the honors and to get a tablet for this year.	To get a degree in the exams and to get a place at a science high school.	To finish the term successfully, to get a place at the science high school and to be a doctor.

When Table 4 is examined, it can be seen that S1 has an interest in science and mathematics, likes to learn through experiments or computer activities while learning and wants to express the products caused by learning through acting, modeling, drawing and explanation and discussion. The assessments show that S1 likes to read books of joke, puzzle, travel books, to run, to swim, to draw a dress and watching the program Science in the Backyard.

Table 5 is given student assessments of working styles.

Table 5: Student Assessments of Working Styles

	Positive		Undecided		Negative	
	f	%	f	%	f	%
Working alone	27	60	14	31	4	9
Working with a friend	25	56	17	38	3	7
Working with an adult	25	56	15	33	5	11
Working with a small friend group	19	42	15	33	11	24
Working with the whole class	27	60	6	13	12	27

When Table 5 is examined, it can be seen that 60% of the students consider it suitable to work alone, 56% with a friend, 56% with an adult and 60% with the whole class.

CONCLUSIONS AND SUGGESTIONS

This study has adapted Total Talent Portfolio, which consists of open-ended, ranking and likert type questions, into Turkish. Within this context, the reliability coefficient of the interest areas category was found as 0.80, and expert views were taken on learning styles and other categories. The results of the expert analysis showed that the Turkish version of Total Talent portfolio is a reliable tool that can be used in determining the general interest areas and learning styles of students. In addition, it was found that the results of the assessments of students, parents and teachers were greatly consistent with each other.

When the results of the interest areas category were examined, it was found that most of the students in the research group had more interest in scientific experiments and trips/observations than all the other areas (Table 3). This result is similar to the results of Eke's (2010) study. In Eke's (2010) study, it was found that students in Turkey had a great interest in scientific subjects and they had positive attitudes towards science. The reason for this result may be the fact that science makes students curious and excited and students are active in experiments. At this point, what is important is that students develop these strong aspects (Renzulli, 2014; Renzulli & Reis, 2014; Renzulli & Renzulli, 2010). Thus, the science literacy of the students in the research group should be supported, different science activities should be developed for these students and extracurricular learning environments should be presented to them. Further studies can thoroughly examine on which science subjects students have more interest. According to the results of the study, most of the students prefer to make experiments and participate in instructive games while learning something new. When these preferences are considered, it can be said that students are more active and they prefer to learn through methods of working together. The reason for this result is that experiments cause students to experience feelings of exploration and they are motivating (Dede, Clarke, Ketelhut, Nelson & Bowman, 2005) and instructive games enable students to work with their friends in small groups and thus enable them to interact with each other and thus take part in a working environment which makes them feel independent. Kim (2008) emphasized that the information related to these dimensions is important since both teachers and researchers use it in primary school. According to this classification, it can be said that most of the students in the research group want peer supported teaching and teaching with problem solving activities. In peer supported teaching, instructive games can be played and in problem based teaching, different experimental environments can be presented to students. When studies about learning styles conducted in our country are examined, the small number of studies in primary schools is remarkable (İflazoglu Saban & Arslanhan, 2015). Learning styles of primary school students should be examined in terms of subjects and students should be given activities suitable for their learning styles.

When the students' working preferences were examined, it can be seen that the percentages of working alone, working with friend, an adult and the whole class are close to each other (Table 5). Consequently, some students prefer to work alone, while some others prefer to work with an adult and some prefer to work with the whole class. The reason for this is the differences in learning styles.



Individual assessment of all the information gathered from the portfolio should be assessed individually allows for the more efficient use of the information gathered. For example, when the student, parent and teacher assessments of S1 code are examined, it can be seen that this student does not like to work alone, but likes to work with an adult/peer. Thus, this student should be given environments in which teaching methods with peers based on Renzulli, Rizza, Smith's (2002) classification. Peer supported method is a method in which the individuals are both teacher and student and also peer, or the teacher has the role of either just teacher peer or just learner peer (Burnette, 1999) and Burnette (1999) reported that this method aimed to develop the academic and social skills of students and increased students' self-respect.

According to the results of the study, it was stated that the student named S1 has an interest for drawing (Table 4). When Table 4 is examined, it can be seen that S1 has an interest in science and mathematics, likes to learn through experiments or computer activities while learning and wants to express the products caused by learning through acting, modeling, drawing and explanation and discussion.

The assessments show that S1 likes to read books of joke, puzzle, travel books, to run, to swim, to draw a dress and watching the program Science in the Backyard. Parent and teacher assessments are very similar, too. Based on these results, S1's talents of drawing and picturing can be developed with independent projects and studies to make models and drawing/picturing activities should at least be integrated with computer assisted education. Thus, various chances should be given to students to develop this skill at home or at school.

When the product sharing status of students in the study group after learning something new were examined, it was found that 88% of all the students had positive attitudes towards doing tests, while 84% had positive attitudes towards doing worksheets. The fact that the students had a habitual for doing tests and study pages as a result of the methods applied by class teachers can be the reason for this question. Students should be given opportunities to conduct new studies which will help them to become more active such as modeling, graphic drawing, preparing research reports, forming discussion groups and participating in project researches. At this point, the class teacher has a great duty. Classroom teachers should plan the content, process and product dimensions of differentiated activities for students according to students' interests, talents and learning styles; and necessary opportunities should be given to students to enable that the products they created as the results of learning are different, unique and creative.

This study has some limitations. First of all, this study is a pilot study which is conducted to adapt the TT portfolio into Turkish. The results of the study cannot be generalized beyond the group in the study. Secondly, this study is limited to TT portfolio information. Studies about interest and learning preferences can be examined in different student groups in terms of observation and interviews.

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