

Üstün Yeteneklilerin Eğitimleri ve Türkiye'ye Bakış*

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ÖZ: Bu çalışma üstün yetenekli çocukların normal sınıflarda eğitimi için müfredatı düzenleme ve geliştirme yollarını, çoklu zekâ kuramından yararlanarak onlara fen ve matematik öğretimini sağlamayı örneklendirerek çeşitli açılardan bakmayı amaçlamaktadır. Üstün yetenekli çocuklara matematik ve fen dersleri öğretiminde karşılaşılabilecek problemleri ortadan kaldırmak için müfredat onların ilgilerine ve yeteneklerine hitap etmelidir. Bu yüzden çeşitli başlıklarda değişiklikler yapılması eğitimleri sırasında karşılaşılabilecek problemleri önlemede etkili olabilir. Bu alan yazın çalışmasında eğitim programlarını geliştirme yollarından da bahsedilmektedir. Öğretmenlerin üstün yeteneklileri eğitmede farklı metotlar uygulamaları, ders planlarını onların öğrenme stillerine dikkat ederek yeniden düzenlemeleri önemlidir. Kısaca üstün yeteneklilerin eğitiminde kullanılacak birçok metot ve strateji vardır. Türkiye'de üstün yeteneklilerin eğitimi tarihi boyunca Bilim ve Sanat Merkezleri (BİLSEM olarak adlandırılır) ile bazı kurum ve dernek çalışmaları üzerinden yürütülmektedir. Ancak 2011'de verilen meclis soru önergesi ve 2013 yılında yayınlanan strateji planı ile üstün yetenekli çocukların desteklenmesi gerekliliğine ışık tutulmaktadır.

Anahtar Sözcükler: Üstün yeteneklilerin eğitimi, üstün yetenekliler eğitim yaklaşımları, müfredat zenginleştirme, Türkiye örneği

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Gifted Children's Education and a Glance to Turkey*

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ABSTRACT:The paper provides a critical overview about teaching children in regular classrooms, designing and enriching curricula for gifted children and using multiple intelligence theory as teaching mathematics by giving several examples. Teaching mathematics or science to gifted children doesn't seem easy because every student is different than each other. In order to eliminate the expected problems the curriculum should focus on many things like their interests, abilities and their needs. Thus differentiation in terms of content, product and environment is the key concept to prevent some challenges in regular classrooms. Also, the paper attempts to look at enriching curricula for gifted children by providing different strategies to teachers as implementing programs such as designing education plan to see their learning styles, characteristics and interests in different areas or using computer technology such as expecting project preparation with individual or small group work. This approach is related with multiple intelligence theory as well which will be used as a benchmark for the last part of this study. Thus, the study focuses on the alternative methods and strategies. Also in Turkey throughout history, education of gifted students has been conducted by Arts and Science Centers (as called BILSEM)and study of some institutions and associations. However, parliamentary questions suggested in 2011 and strategy plan established in 2013 have shed light on necessity of support of gifted and talented students.

Keywords: Gifted students' educations, giftedness education approaches, curriculum enrichment, a case of Turkey

INTRODUCTION

Every student has different capacity from their peers. They may have strengths and weaknesses in one area or more than one area. The fact that some students can be more talented than peers is called giftedness. Giftedness is defined as performing remarkably high level of accomplishment when compared to same age or experience of other learners. In addition, it is to have extraordinary skill and capability in terms of creativity, intellect and/or task responsibility. Even if some students are gifted and talented, they sometimes have educational challenges such as lack of expressing thought and feelings, feeling isolated from class environment and thought of waste of time. *Family dynamic* such as disciplinarian or protector, *culture* which triggers some obstacles in the stage of development of achievement and *equality of educational opportunity* like inadequate chances to develop their talents, can cause underachievement for gifted and talented students. For the early intervention, characteristics of gifted underachievement should be known. They are low academic self-perception/self-concept, low self-motivation, low desire to effort toward academic tasks, low aim valuation, low self-regulatory or metacognitive skills, external attributions, and negative attitudes toward teachers and the school(Callahan & Plucker, 2008).

This kind of obstacles and problems can pioneer the foundation of benevolent institutions and associations in Turkey. Since, in today's world, giftedness is an important to survive our underachieved gifted learners not to fall in to hole. For this purpose, the theories of giftedness should be examined and Turkey's steps on this issue should be analysed so that the experts and specialists in this area can extend their

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perspectives and feel encouragement to determine new futuristic pathways about giftedness.

Theories of Giftedness

The theories of giftedness focus on five criteria that superiority of gifted students in some dimensions, excellent success against peers, productivity ability and superior performance in a dimension is valued by their society. Also, giftedness of a child should be supported by at least a valid test so that the child is labeled as a gifted student. However, many educators suffer from the fact that they do not meet the needs of different gifted learners. Antipathy of many teachers toward gifted learner, lack of knowledge about differentiation method and lack of services for gifted population are some of the factors which seems challenging to teachers. If the differentiation method is used, curriculum is renewed for needs, interest and abilities of gifted students. The most helpful tool is Multiple Intelligence Theory which supports that different multiple intelligence dimensions of gifted students should be provided by different activities and exercises to enhance their learning. The contents should be explained in a way for students who have different abilities. If they are not satisfied during lesson, that they become underachievers is unavoidable. The huge gap between their expected and actual achievement emerges. Family dynamics, influence of peers and equality of educational opportunity also trigger underachievement for gifted students. By designing and enriching curriculum, teachers can meet their needs and lend a hand from falling into underachievement.

Joseph S. Renzulli, Kurt A. Heller, Francoys Gagne and Robert Sternberg are researchers who work hard in theories of giftedness. Renzulli (1979) summarizes the development of gifted and talented students under the title *Three Ring Conception of Giftedness* (see Figure 1). He suggests that main factors are above average abilities and creativity to be shown the talented abilities. In the next step other researchers think that environmental factors and personality characteristics are also important for giftedness. Heller's *Munih Model of Giftedness* (see Figure 2) proposes that talent factors, performance areas, personality factors, and environmental factors are related with interdependently (Heller & Perleth, 2008). However, Gagne (see Figure 3) thinks that all talents are developed from natural abilities through learning influenced by inner and outer effects. Sternberg suggests theory of giftedness in five criteria. The first criterion is excellence which means a student must be superior in some dimension. The second criterion is rarity which says the excellence must be relative to peers. The third criterion is demonstrability where individual's supremacy on giftedness dimensions must be denotable at least one valid test. The fourth criterion is productivity. The fifth criterion for a child to be viewed as gifted is the higher performance value must be along a dimension which is accepted by his society (Zhang, 2003).



Figure 1. Renzulli's three ring conception of giftedness. Adapted from *Gigers*, by Matthias Giger, 2006, Retrieved from: http://www.gigers.com/matthias/gifted/three_rings.html .

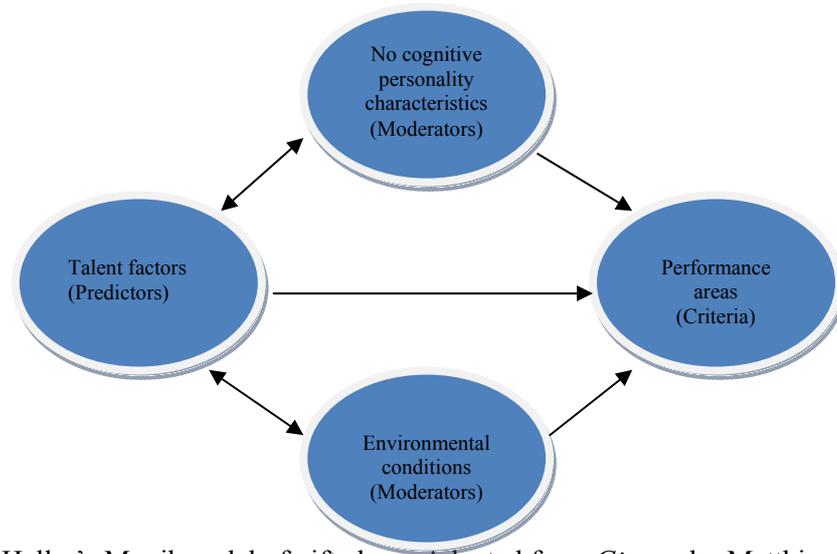


Figure 2. Heller's Munich model of giftedness. Adapted from *Gigers*, by Matthias Giger, 2006, Retrieved from: http://www.gigers.com/matthias/gifted/munich_model.html

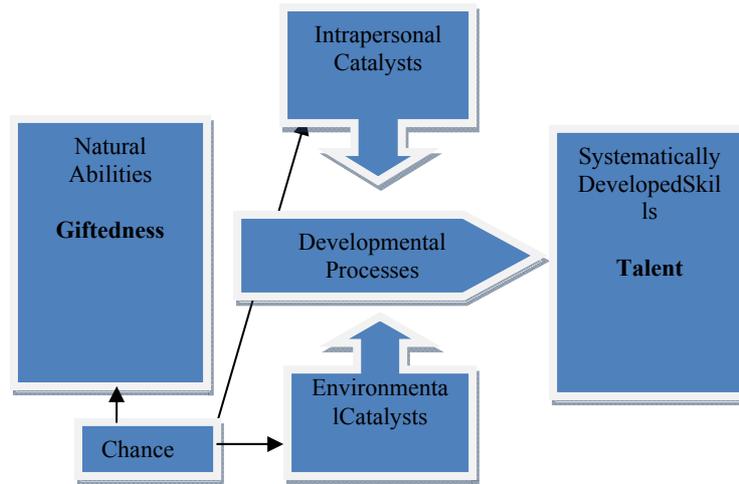


Figure 3. Gagne's differentiated model of giftedness and talent. Adapted from *Gigers*, by Matthias Giger, 2006, Retrieved from: http://www.gigers.com/matthias/gifted/gagne_dmgt.html

Multiple Intelligence Theory

According to Howard Gardner, people have different abilities, so he defines multiple intelligence theory. There are eight kinds of intelligences and people may have strengths in one kind or other kinds.

- Logical-Mathematical: It refers a sensitivity to logic, mathematical thinking and reasoning;
- Verbal-Linguistic: It refers a sensitivity to meanings of words and language functions;
- Musical-Rhythmic: It refers a sensitivity to musical rhythm and an ability to produce and express it;
- Visual-Spatial: It refers a sensitivity to perceive the visual world and space skillfully;
- Bodily-Kinesthetic: It refers a sensitivity to control body movements;

- Interpersonal: It refers a sensitivity to figure out people's moods, desires, motivations;
- Intrapersonal: It refers a sensitivity to figure out one's own feelings (strength, weaknesses, desires...etc.) and to be able to guide behavior that is based on these feelings;
- Natural: It refers a sensitivity to recognize plants and animals and to be able to figure out the natural world.

Lastly, Howard Gardner expressed a new category which is existential intelligence. This insists on thinking the meaning of life (Woolfolk, Hughes & Walkup, 2008).

Teaching Gifted Children in Regular Classrooms

Teaching in a regular classroom has become more difficult due to increase in student number and variety that have triggered pressure to link learning experiences to educational standards and test preparation (Sondergeld & Schultz, 2008). According to many literatures the accepted effective approach is differentiation. This means curriculum aims at abilities, needs and interests of individual. There are four ways of differentiating such as process, content, product and environment. Content differentiation means providing materials for varied ability students in one classroom. In process, interesting and attractive activities are used to meet students' interests, differentiating product is a way of express required learning objective students' learned and learning environment such as providing students with group work is a kind of differentiation method.

According to some researchers teachers make science more meaningful for learners at elementary (K-4) level. The aim of the lesson is making more understandable key points; knowledge, application and exploration. Basic knowledge about simple machines unit is given all learners grouped by ability. For the gifted learners who complete basic knowledge, application and exploration activities are available. On the other hand, for learners who have difficulty in knowledge part, additional assistance helps them. During lesson every learners take fair science education. The students are faced with the same basic problem of producing a complex machine that is made from a series of simple machines (Sondergeld & Schultz, 2008). The teachers' aim is to show that scientific instruments can be made from household apparatus and encourage creativity.

After the lesson, the researchers take reflections from the students. Many of them say that "Boring to me is when we read and take tests. It is not boring to be doing science and I want to do more science this way" (Sondergeld & Schultz, 2008). Also in teachers' perspective even if they find the lesson much harder than expected, they agree that the learners explore and learn without constant teacher direction.

On the other hand some experts in this area discuss the most common barriers. Educators of regular classrooms are expected to meet and challenge with variety needs of dissimilar learners. It seems challenging by teachers due to some factors such as requirement of degree of differentiation, offering advance learning occasions beyond grade level, antipathy of many teachers toward talented learners, lack of tactful services for gifted people, and deficiency of service mandates in many states (VanTassel-Baska&Stambaugh, 2005).

Secondly lack of sufficient content knowledge is an obstacle. For instance, gifted students are talented in subject matter and need teachers to be provided advanced understanding. In addition, some beliefs teachers have are discussed. First belief is that students learn at different rates and obtain knowledge by different ways. As a second belief it is stated that teacher is not the guardian of all knowledge (VanTassel-Baska&Stambaugh, 2005). Therefore, teachers think that even if direct instruction is necessary for talented children, they can learn through independent study or in group work. Some educators at primary grades are faced with higher level resources and need more time to utilize it. Lack of planning time makes educators give up differentiating instruction. It is pointed out that planning time for teachers is wasted by team meeting.

It is important to note that many teachers don't know the qualities of gifted children, so they don't direct themselves to enhance their instruction and attitude and this situation may create problems for gifted children.

Some people think that children are born with these abilities and can learn by themselves as well as others think that environment is also important to define giftedness as inherited capacity. However, teachers should be aware of the existence of gifted children in their classrooms, so they should create learning environments that all students benefit with the help of curriculum challenging enrichment activities.

On the other hand students in regular classrooms may create problems or challenges for the teacher and peers. For example, poor or unfinished work may be seen because the subjects that they work may not take their attention. Actually, gifted students may feel discomfort about group works and they prefer work alone because they may think that their ideas would be misunderstood with this approach. However teachers may see children who show the properties of leadership in group work because they may have leadership skills and bossiness in group works. Also, teachers may see behavior or emotional problems on them in the classroom due to the fact that they have more sensitive natures compared with other children and they may see the class work too easy. Hence, they may withdraw themselves from classroom activities (Manning, 2006).

Designing and Enriching Curriculum for Gifted Students

There are many ways in order to design and enrich curriculum. It is a very important concept because gifted and talented children are apart from their peers at some areas such as "The pace at which they learn, the depth of their understanding, the interests that they hold" (Gilson, 2009), so people have to be sure when they identify these children. Actually, multiple measures should be used to identify them. Then, how teachers can be beneficial for these children? We mean how teachers can implement programs and design curricula so successful that their interests are taken. If teachers cannot meet their needs, they can lose their interests to the lessons so that they can be underachievers (Gilson, 2009).

First of all, teachers have to create an education plan in order to decide curriculum enrichment and they should learn their learning strengths or learning styles, academic and personal interests, their characteristics because every gifted student is different from each other and each of them has a different capacity (Leavitt, 2007).

Compacted courses that enclose a shorter period for a course compared with two individual semesters for the same course can be an alternative, so children may save time or taking advanced level courses is another strategy. Also, early entrance is another approach that insists on entering the middle school, high school...etc. earlier than normal age (Gilson, 2009).

On the other hand computer technology is a way to modify curriculum and to instruct gifted children differently because we live in a world where the technology is an essential part of it. "Conceptual thematic units, questioning strategies, development centers, independent study and mentorships can be given as examples to curriculum enrichment activities" (Mulrine, 2007). For example, teachers may give homework to them, use manipulative to instruct a topic and expect children preparing projects by using Internet (Mulrine, 2007). Thus, children's visual senses are used. Actually, expecting project preparation contributes thinking abstract, so small group projects or individual work may be good alternatives. Hence, they will learn how to solve problems, communicate their ideas and organize their work. For example, Lulu Stedman who made researches on gifted children gave "Arithmetic Virtualize through a Banking Project" as an example of enrichment Project (Jolly, 2006). This project is not only creating a real bank atmosphere in order to teach mathematics but also requires visiting a real bank like a field trip. In addition to this, these field trips can be done on Internet. For instance, teachers may provide virtual museum tours (art museums, science and history museums) to provide a cultural experience about a country. Also, games are indispensable parts of computers and the teacher

may use this situation as an alternative. Math Bingo, Wacky Word play at Education World's Online Game Activities can be given as samples to these sites (Mulrine, 2007).

Furthermore, as a candidate of math teacher, we have to think about how we can enrich the curriculum for mathematically gifted children. These students may focus on more abstract thinking and they have capacity that is more than computations and mathematics seems more abstract, so teachers should follow a way which is different from regular curriculum. For example, instead of low mental process, teachers should use high mental process when they ask questions. This condition enlarges their comprehension, analytic thinking and evaluative sides. The teacher has to challenge their abilities, so they don't afraid of taking risks or making mistakes.

On the other hand teachers have to think about other gifted students who may be talented in music; art and drama so they may put special courses about these sides so that children who are gifted at these sides may aware of their talents and their needs are met too. Also, the article "Curriculum for the Gifted Student: Lulu Stedman's Contributions" recommends health and physical education as a part of curriculum enrichment (Jolly, 2006). In order to take their attention teachers can encourage them to work on an independent study as it is said before. The teacher should encourage them to choose a topic that takes their interest, so they will create ideas and questions about the topic. The teacher should give them time for research on this topic. Then, they should be allowed to produce different things about their projects such as posters, written reports or dramas and the teacher should encourage them to show their whole work in front of classmates or other teachers (Leavitt, 2007).

OVERVIEW OF GIFTED EDUCATION IN TURKEY

History of Giftedness on the side of Turkey

According to the years before 1957s, the progress on giftedness and gifted children seemed to start in Turkey. There had been some vital and valuable traces about giftedness which leaded and guided to the world. As an illustration, special schools in Ottoman Palace, which is called Enderun, had proved his initiator spirit on the fact that through 600 years of Ottoman Empire period, the children were selected as devshirmeh. Enderun was a kind of Ottoman Palace University where special education of people who would work in palace and manage the state was given (Akyuz, 1994; Sungur, 2003; Yildiz, 2010). According to Kulaksizoglu (2007), it was the highest degree of education and instruction place of empire. This study had supported the idea that every individual must be educated in terms of his/her individual characteristics spread perceptiveness of modern and contemporary education.

Then, they were educated with the help of special curriculum which had been prepared for different abilities. After 10-15 years, the school continued to educate them as high level managers, soldiers or artists according to necessity of state. On the other hand, İdilBiret-Suna Kan law was legislated in 1948 which have been prevailed even nowadays. The artists who benefited from the law of "Wonderful Kid" went abroad to get an awesome education about their artistic activities on the way of contributing Turkish music (Tuncdemir, 2004; Kulaksizoglu, 2007). Approximately twenty artists all of them have been famous in the world were developed on the protection of state (Ataman,n.d.).

The year of 1957 was accepted by the born of importance of giftedness and gifted education in the world. After the flinging of Soviet Union's first spacecraft, Western countries became faced with the fact that Soviet Union gave importance on gifted children and their abilities. Therefore, Soviets run out Western counties in space competitions. Throughout this significance Western counties began to work on and accelerated study of institutional curriculum and diagnostic aims about dimensions of giftedness. Of course this development contributed Turkey in gifted education in 1964s. First of all, Ankara Science High School was settled to develop gifted children as scientist and researcher in science and mathematics branch. It lasts until 1973s (Ataman, n.d.).

Nevertheless, in Turkey there are no formal public institutions rather than Anatolian Fine Arts High Schools (secondary level) and Science and Art Centers (BILSEM) in Ankara which are contingent upon Ministry of National Education (MoNE). As private institutions, there are only three schools established for education of gifted children, one of them is primary level and 2 of them is secondary level. It can be informed that there is restricted number of institutions and also there is no any construction for these children starting from primary level in formal education as in the case of Western counties. It is possible to comment that there is a big deficiency and need in education system. After 1957, with a rapid movement, gifted education has been given worth by either separate education or inclusion. In 1963-64, gifted children were placed special classrooms (Sahin, 2003; as cited in Kulaksizoglu, 2007) until 1968 and between years of 1964- 1972 inclusion situations were applied in the formal education institutions.

All in all, we should not ignore the following historical traces in Turkey that in October 1952 there was giftedness specialization department in Gazi Education Institution (Caglar, 1974; as cited in Kulaksizoglu, 2007) and also first Guidance Research Center (RAM) was built in 1955 (Sahin, 2003; as cited in Kulaksizoglu, 2007).

Arts and Science Centers (BILSEM)

What can be primary school gifted children's characteristics? They learn quickly and remember easily, like problem solving, have wide range of vocabulary and make amazing sentences. They are more interested in different fields such as space, insects or cars than peers. They are expert in questioning especially about existence and creation. They can like numbers, labyrinth, and puzzle; do collection and watch documentation; sleep less. That children can act sensitively and responsible to environment and social problems, are keen on intellectual subjects, ask question about country's agenda. Also they have ability to joke and humor (UST-ZEM, 2013).

So, what kind of institutions can help these children to make them realize their potentials? The answer can be given as Arts and Science Centers. BILSEM in Turkey were settled in 1993. They are the unique public institutions in which children have been diagnosed and identified with IQ tests. They mostly use IQ and ability tests rather than usage of achievement tests as other institutions. MEB (2007; as cited in Yildiz, 2010) defines the studies of BILSEM that it is an independent special education institution aimed at making individual realize his/her own ability, develop their capacities, and use them at the highest level. The aim of BILSEM can be stated as,

- To realize talented children's ability and creativity
- To develop their ability area
- To discover students' creativity and productive thinking skills
- To make them realize their skills and combine aesthetic value with scientific idea, and to guide them being productive, problem solver
- To orient them to produce modern tools
- To provide them to develop important life projects.

The programs applied in BILSEM according to their principles depend on the fact that students' prerequisite knowledge is determined. The programs should be mentioned as Support Education Program (DEP) where students can take lessons from different branches, communication skills and scientific research methods. Individual Ability Determination Program (BYFP) provides opportunity to children for area selection and taking lesson from sub-branches. Special Ability Development Program (ÖGYP) supports children to do activities with their teachers and finally Project Programs are presented and offered students to be selected for their career of support and development (Yildiz, 2010).

Anadolu University Education Program for Talented Students (EPTS/UYEP)

In Turkey few institutions and universities dedicate itself for educating talented children. One of the most important university reserve strong base and team for giftedness is

Anadolu University. Thanks to master program it is produced an education program for talented students (EPTS). EPTS is a university-based program and includes unique identification of child, instruction, curriculum and teacher training modules. Until now it is only offered for middle and high school students through 6th to 9th graders in mathematics and science. Its uniqueness stems from sample based identification instead of cut off scores where scientific creativity performance and mathematical ability tests are applied to target children. The aim of this program is to provide extra supportive activities depending on scientific core and appropriate individualized differences. In this curriculum there are advance mathematics, science, character education, creative drama and writing, fine arts and counseling. Sak (2011) states that gifted students should search discoveries in problem solutions instead of routine problem solving procedure. In EPTS classes the approach to education is fostering human intelligence to reach pick points. So, the goal is to ban gifted students to lose themselves in educational system.

In Turkey even in these days, talented children, 13-14 years, are not allowed to take courses in university or to graduate from colleges unlike other countries. Therefore with the help of EPTS children can interact with academic professors in social environment, discover their ability and have an opportunity to develop themselves who have not come parents' or teachers' attentions.

Along with Sak (2011)'s study, there is a high deficiency about qualitative and quantitative data about giftedness. In addition to BILSEM, Anadolu University and Istanbul University contribute in this era. EPTS provides dynamism and original global dimensions and validity. From static test to dynamic diagnosis, like development evaluation, of talented children, its social validity is considerably high. To conclude EPTS is first and prominent program worth to be realized in Turkey.

Tevitol

Another foundation who contributes to education of gifted and talented children who have financial impossibility is TEVITOL foundation. It is founded in 1990 by businessman Sezai Turkes and his wife İnanc Turkes. Until 2002 in continues his job under the title of Turkish Education Foundation İnanc Turkes Private High School (TEVITOL). The school approach depends on the belief that if gifted children are guided until early years, their development can be expedited because if they are not supported, their self-fulfilment and creativity opportunities are not provided. They can have negative effect to both themselves and neighbourhood. Their curriculum includes exchange program, international baccalaureate program and summer schools.

CONCLUSION

Under the light of history of Turkish Education System, many school and institutions have been founded; some of them are discussed above. As university, İstanbul University Hasan Ali Yücel Education faculty, Anadolu University UYEP can be mentioned. As secondary school level, TEVITOL and Fine Arts High Schools can be said. Primary schools are Ford Otosan Primary School which is found with protocol between İstanbul University and MoNE, Coskun College which is in İstanbul, Yeni Ufuklar College and Doga College Gifted Children Primary School. Moreover, non-governmental organizations such as Turkish Intelligence Foundation, which is settled in ODTU, Teknokent, Ankara, Intelligence Game Activities in İstanbul, TUYCEV which

is a kind of small association, Gifted Institution in Bahcesehir University, Gifted Education Federation and MENSA Gifted and Talented Support Association have bearing a hand to our gifted children in Turkey.

All in all, on this issue, Grand National Assembly of Turkey (TBMM) accepted parliamentary question-presented in 2011-about gifted students and support of their education. They stress that talented children generate 2% of total population in Turkey. Consistent with TUBITAK, 6742 of them have been educated in BILSEM. Nevertheless, 25 parliamentarians suggested an assembly research on discovery, education and employment of 682 thousand gifted youth who are between 0-24 ages (MEB, 2013). As stated by justification of research resolution, it is noted that gifted and talented students are the biggest wealth of our country. Even though some regulations have been made until nowadays, their education and monitoring cannot reach satisfied standard. Since, they are prominent potential and strategic value for the country so that this situation should be taken into consideration with many dimensions. On this case, Special Talent Group Presidency Unit has been constituted. Lastly, strategy document has been established in January, 2013.

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