

## Academically Gifted & Albino: A Narrative Study of a Twice-Exceptional

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### Abstract

This research focuses on the educational and daily life of a gifted individual with albinism. The purpose of this current research was to determine the difficulties faced by this twice-exceptional individual in his education life and how these difficulties have been overcome. The study has been conducted by narrative study design of the qualitative method. Research data were collected through semi-structured interviews conducted with the individual himself, his mother and one of his friend. Data analyses revealed four different themes, such as: difficulties due to visual impairment and strategies to cope with these difficulties, difficulties experienced due to physical disadvantages and ways of overcoming them, being gifted and socio-emotional difficulties. More specifically, the twice-exceptional individual, who has visual impairment due to albinism (90%), continued his formal education throughout the whole education life without attending inclusion classes, and encountered many difficulties specific to those who see little, such as having difficulty in following the course and course notes. In addition to these, the twice-exceptional individual is an unrecognized gifted student (academically) who exhibited early development in the childhood period and who has achieved outstanding academic success at undergraduate and postgraduate level after having been in the 0.01% portion among the students taking the university entrance exam. As gifted, he has not received any special support in the education system. It is seen that the support of his family throughout his education life is an effective factor playing an important role in the shaping of the education life of the twice-exceptional individual, who has been confronted with many social-psychological difficulties because his difference from others as a gifted individual with albinism.

**Keywords:** Giftedness, Albinism, Gifted and Disadvantaged, Twice-Exceptionality, Dual Exceptionality

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## INTRODUCTION

Within the field of giftedness, which is under the umbrella of special education, one of the subjects that have been on the agenda for nearly fifty years and that have attracted more attention in the last thirty years is individuals who have identification of both giftedness and a different special need or disability. Because, some cases that were seen in the past and are still seen today show us that having both a giftedness and a disadvantage or a different special need can have significant effects on society if discovered and their existing potential is supported (Johnson, Carness & Carr, 1997). Ludvig van Beethoven, Helen Keller, Albert Einstein, Michael Faraday, Thomas Edison, Vincent van Gogh, Frida Kahlo, Temple Grandin, etc. can be given as examples to such individuals.

For these individuals of such potential with more than one special need, the term “twice exceptional” (2E) has been used. This term, that is 2E, was first introduced by Maker (1977) in her book “Providing Programs for the Gifted Handicapped” and Johnsen, Karnes & Carr (1997) defined this book as the first book written for individuals both disadvantaged and gifted. However, according to Baldwin, Baum, Pereles, and Hughes (2015), cases of twice exceptionality became subject to book chapters between 1961 and 1973 and began to emerge more concretely in the article written by Elkind (1973) on being both gifted and experiencing learning difficulties. Since then, one of the headings in the 2E field that researchers have focused on has been the definition of it.

In general terms, the diagnosis of 2E means that an individual is identified as both gifted and disadvantaged at the same time (Assouline & Whiteman, 2011). Moreover, in relation to this situation which seems to be in conflict with being gifted, Gallagher (2009) answers the question of whether a student can be both gifted and disadvantaged as follows:

Such students have been called “twice exceptional” and have received much recent attention. Students can clearly be both gifted and learning disabled, with specific blocks in auditory or visual perception or the ability to master some mathematical processing or even spelling. Other students have been identified as having Asperger’s syndrome, a form of autistic spectrum disorder that interferes with social skill development and communication, with the student clearly being outstanding in some areas of learning. Twice exceptional students need to have individual plans and special programming to help them reduce their disability and free their high abilities for more effective use. Obviously gifted students who have conditions of visual or auditory impairment have achieved impressive results when recognized and stimulated. (pp.175)

Because it is possible for an individual to have both giftedness and a disadvantage simultaneously. This situation of being disadvantaged emerging together with being gifted has been generally focused on as learning difficulties (LD), autism spectrum disorders (ASD), and attention deficit/hyperactivity disorder (ADHD) (Assouline, Nicpon & Doobay, 2009; Foley-Nicpon, Allmon, Sieck & Stinson, 2011; Gallagher, 2009; Lupart & Toy, 2009; Reis, Baum & Burke, 2014). For instance, when the research conducted on the issue of twice exceptionality between 1990 and 2010 is reviewed, it is seen that there are a total of 43 empirical studies and five of these studies focused on giftedness and ASD; seventeen of them focused on giftedness and ADHD and twenty of them focused on giftedness and LD (Foley et al., 2011). However, it is possible to rarely encounter studies focusing on 2E cases different from these. For example, as a different case of 2E, a gifted person diagnosed with impulse control disorders and depression was encountered and this individual became the subject of a study (Gök, Baş & Avşar-Tuncay, 2018). In addition, there are also findings related to gifted individuals with visual impairment, hearing impairment/deafness, social, emotional and behavioural disorders (Lupart & Toy, 2009; Sisk, 2003; Starr, 2003; Winstanley, 2003).

The definition of being 2E is also influenced by the lack of common definitions of both giftedness and being disadvantaged; thus, it is defined as a type of identification on which no agreement has been reached and is attempted to be explained with the model of being 2E (Ronksley-Pavia, 2015). According to this model, it is suggested that evaluating the concept of being

disadvantaged under the roof of learning disabilities, mental disability, physical disability and neuro-developmental disorders and considering giftedness in intellectual, creative, social, sensory and muscular dimensions would be more useful in defining what being 2E is. According to Reis et al. (2014), being technically 2E means having one or more identifications or diagnosis from the special education categories defined by the IDEA (Individuals with Disabilities Education Act) besides being identified as gifted. However, in a different functional definition developed by Reis et al., being 2E is defined as follows:

Twice-exceptional learners are students who demonstrate the potential for high achievement or creative productivity in one or more domains such as math, science, technology, the social arts, the visual, spatial, or performing arts or other areas of human productivity AND who manifest one or more disabilities as defined by federal or state eligibility criteria. These disabilities include specific learning disabilities; speech and language disorders; emotional/behavioral disorders; physical disabilities; Autism Spectrum Disorders (ASD); or other health impairments, such as Attention Deficit/Hyperactivity Disorder (ADHD).

A definition that was agreed upon was developed by twenty-three participants who participated in the 2E CoP Summit in 2013 representing twenty-four different organizations (Baldwin et al., 2015). According to this definition, being 2E is defined as follows:

Twice exceptional individuals evidence exceptional ability and disability, which results in a unique set of circumstances. Their exceptional ability may dominate, hiding their disability; their disability may dominate, hiding their exceptional ability; each may mask the other so that neither is recognized or addressed. 2e students, who may perform below, at, or above grade level, require the following:

- a) Specialized methods of identification that consider the possible interaction of the exceptionalities,
- b) Enriched/advanced educational opportunities that develop the child's interests, gifts, and talents while also meeting the child's learning needs,
- c) Simultaneous supports that ensure the child's academic success and social-emotional well-being, such as accommodations, therapeutic interventions, and specialized instruction, and working successfully with this unique population requires specialized academic training and ongoing Professional development.

In addition to these definitions, being identified as disadvantaged for a gifted child may result in a situation that may mask his/her giftedness, which points to the need for the revelation of both identifications (Rinn, 2009). Otherwise, the disadvantage's coming to the fore may lead to a problem of never discovering the talent. This may lead student to failure. Perhaps most of the students showing unexpected failures are actually 2Es.

Furthermore, 2E students are included in the risk group due to their inability to develop their potential, which makes it necessary to investigate the factors that affect their success (Neumeister, Yssel and Burny, 2013). Because, although educators may not be aware of being twice-exceptional, those who experience this particular situation themselves are aware of it. Although 2E students can also be regarded as paradoxical students / learners, they may lack some basic skills, although they have the ability to comprehend complex problems and materials (Silverman, 1989). In addition, these students can avoid tasks including the risk of failure and raise concerns about school and school expectations (Silverman, 2009).

When the distribution of these students in general student population is examined, it is seen that two different types of information are emphasized. According to data from the United States

schools, the number of students likely to be identified as 2E reached 360,000 by 2000 (National Education Association, 2006). On the other hand, according to Foley-Nicpon, Assouline and Colangelo (2013), 2% to 5% of students are twice-exceptional students. When these students whose number is too huge to be neglected and when the area of 2E in general are evaluated, it is seen that it is not much possible for teachers to notice these students. As cited by Davis, Rimm and Siegle (2013) from Eisenberg and Epstein (1981), when gifted students with some disadvantages are nominated for giftedness by their peers or by themselves rather than by their teachers, they find the nomination more valuable and in nine out of ten situations in which these students were nominated for giftedness by themselves were identified as gifted. In support of this, research findings have also revealed that teachers are less inclined to nominate students with disadvantages for giftedness. For example, Bianco (2005) and, Bianco and Leech (2010) reported that teachers of special education, gifted students and general education are affected by the disadvantage of the student such as learning difficulties and emotional-behavioral disorders in their preferences and are more inclined to prefer to nominate normal students for giftedness when compared to disadvantaged students. In this context, examination of gifted individuals diagnosed with one or more special needs will make some contributions to the literature, particularly to the recognition of 2E individuals and to the development of educational applications and practices for these individuals.

### **Giftedness**

Although it is accepted that the concept of giftedness was first mentioned by Plato, it is known that serious scientific studies could not be carried out on it until Sir Francis Galton. It is known that many definitions of giftedness have been made since Terman (1925), who proposed the first definition of the concept in his longitudinal study. In these definitions, components and criteria such as high intelligence (Terman, 1925), field-specific exceptional performance (Matthews and Foster, 2005; Witty, 1958), leadership, creativity and productivity (Marland, 1971; Renzulli, 1986; Sternberg and Zhang, 1995), motivation to succeed (Feldhusen, 2005), higher intelligence over the general intelligence (Tannenbaum, 1997; VanTassel-Baska, 2005) and field-specific extraordinary reasoning ability (Brody and Stanley, 2005) have been included. Giftedness to be considered, which has more than three hundred definitions (Anderson, 2000) and yet not one widely agreed on; as the ability of exhibiting an extraordinary performance compared to peers in one or more field(s), will make the concept possible to evaluate from a wider perspective.

### **Albinism**

It is a genetic condition caused by a lack of pigment in the eyes, skin and hair of individuals and is caused by a recessive gene from both parents. Although the incidence is 1 in 17,000, it is known that one out of every 70 people is a carrier of recessive gene of a type of albinism. It has two common types called oculocutaneous albinism and ocular albinism (NOAH, 2015). Oculocutaneous albinism has different subtypes (OCA1a, OCA1b, OCA2) and is generally known as eye and skin albinism. Visual acuity generally ranges from 20/100 to 20/400. In ocular albinism, only pigment deficiency is seen in the eyes and visual acuity of these individuals varies between 20/60 and 20/100. In addition, individuals with albinism may experience photophobia, strabismus and nystagmus (Corn and Lusk, 2018).

### **The Purpose of the Study**

This current study focuses on an individual with albinism who can also be described as academically gifted and his education life. The difficulties that this individual has faced during his education life and how he has coped with them have been examined. In this regard, first focus was on the individual's high school life. However, education life of individuals is a whole. On the basis of the research questions, the educational life of the individual from elementary to post-graduate education has been examined in detail and details of the individual's educational life have been tried to be put forward.

Individuals with special needs face different levels of difficulties in their real lives and throughout their education lives. While some individuals can overcome these difficulties, some students may have left behind. Especially in countries like Turkey, where the educational options for both gifted students and students with special needs remain limited in the general education system, investigation of the achievements accomplished by a 2E individual born to an average family with a medium level of income is believed to shed light on special needs students' training processes and family education. The findings of the current study may provide different ideas about how to realize and support a gifted with albinism or visually impaired 2E student to overcome the difficulties in his/her education life. In addition, these findings will provide important insights as to how 2E students' families, teachers, and counselling units will support them in this process. In this context, the following two research questions guided the current study:

- What kind of educational difficulties did the gifted individual with albinism (2E) experience in his education life from elementary school to post graduate?
- How did the gifted individual with albinism (2E) overcome these difficulties he experienced?

## METHODOLOGY

### Research Design

The current study used the narrative study design, one of the qualitative research methods. In narrative studies, stories about the experiences of people are collected and analyzed with qualitative analysis techniques. In the current study, the main focus is on the difficulties that are reflected in the whole life and particularly in the education life of Akin (a pseudonym), who is a 2E as a gifted person with albinism, and how he has overcome these difficulties.

### Participant's Profile: Akin with 2E

Akin is the youngest son of a family who was born after two daughters. One of his sisters is also with albinism. As he is the second child with albinism in the family, the family is experienced about how to handle the issue. His father is a civil servant and his mother is a housewife. As Akin is an individual with albinism, he has a different skin colour. In addition, he has 90% visual loss due to albinism. He has used different lenses and eye-relieving devices from early childhood until his PhD training years. However, there is no treatment to completely heal his condition. In addition, because of nystagmus in his eyes, he cannot focus on the same thing for a long time. He suffers from headaches that reduce the quality of life due to this eye problem. The biggest fear of Akin is to be completely become blind one day. He says that he always knows that this will happen one day and tries to prepare for it.

Akin was a precocious child. He crawled at the age of five months and began to speak in full sentence structure at the age of one. Doctors have repeatedly reiterated that he has developed early and is a very intelligent child. He was a very successful student at the elementary school and he passed the central high school entrance exam held in the whole Turkey and was accepted to an Anatolian High School. In this exam, he was in the top 1% of the student population taking the exam. He graduated from high school as the second top scoring student. Then he took the university entrance exam, and he was ranked within the first 2000 students (0.1%) out of 1,500,000 students taking the exam. After he had graduated from the English medium engineering department of one of the best universities of Turkey as the third top scoring student, he started his master's studies and then PhD studies in the same university. Now, he is working as a senior executive in an international company in Turkey. He has been married for two years.

Akın sees himself as talented in music. He tried to play a musical instrument as a child but gave up because he could not read musical notes. He joined a dance group at the university and performs tango and waltz. He performed in many shows with the dance group. One day in a conversation with the researcher he said, “*You don't have to see to dance.*” In addition, he made a radio program on the university radio for eight years. This program was finished as he had to move to another city because of his job. Akın, who loves to travel, makes use of every short and long break with his current wife and travels around the world; he is a good traveller.

Before elementary school, Akın tried individual sports such as gymnastics and taekwondo. The sport he has been engaged in for a long time is cycling. He has been riding bike since elementary school. Cycling is a way of commuting and a sport for him. He also likes skiing. He stated that he was moving only by feeling his muscles while skiing.

He has been interested in web design since his high school years. In 1996, he tried to create social awareness and consciousness about Albinism through his website and blog. He translated and issued English documents in his blog. This internet site and blog are still active after this internet site started its broadcasting, it appeared in the first ranks in Google search on albinism in Turkey for a long time. In 2009, he established Albinism Association with highly conscious families and took an active role in its management. Under the leadership of the Association, many small and large scale projects aiming to raise awareness of families and increase social awareness were conducted. These projects attracted attention and were featured in national channels, and these national channels interviewed Akın several times. He also worked as the editor in the translation of a book called “Raising a Child with Albinism” from English to Turkish and then got it published by the association. The book is still the only Turkish book in the literature about albinism.

When we asked different people around him to describe Akın, his teacher described him as “*very intelligent, successful, constantly improving and respectful, funny, cheerful*” while his mother described him as “*sensitive, intelligent, successful, self-confident, hardworking, respectful*”. One of his friends described him as “*very intelligent, hardworking, ambitious, funny, motivated, sensitive and respectful*”. The most frequently emphasized feature of Akın by his closest acquaintances is his being intelligent and entertaining.

All of these features mentioned above are a proof that Akın is a gifted person. He showed the characteristics of early development specific to gifted children in his early childhood. In addition, in all the exams he has taken, he has always been within the 1% to 0.1% of the student population taking these exams without requiring any special support or extra time despite his visual impairment. In this regard, in line with the findings obtained from all the above data, Akın was considered as academically gifted in the current study. He has also been interested in art and sports. Moreover, with the projects he has conducted through the association and internet site, he has brought individuals with albinism and families having children with albinism together and all these acts of him have brought his leadership characteristic to the fore.

### **Data Collection**

In the data collection process, data were collected through semi-structured interviews from Akın himself, his mother and one of his friends from high school. In addition to this, the traces, memories and notes of the first author as a researcher from the common life with Akın were added to the qualitative data set of the current study.

In the context of the current study, a total of three interviews were conducted with Akın each of which lasted for one and a half hours on average, an interview of nearly one hour with his mother, one and a half hour interview with a close friend and a half-hour interview with a high school teacher

(physics teacher). In addition, medical reports archived by his family, school reports, results of the general examinations of entry in Turkey were included in the study. Yet, the main data source of the current study is the interviews.

### **Data Analysis**

The interview data collected during the research process were transcribed by the researchers. The obtained data were subjected to descriptive analysis on the basis of the research questions. All the interviews were transcribed and these transcriptions were analysed by two researchers separately. During the research process, together with the education life of the participant, some other sections of his life have also been mentioned because education life is a part of his life. Thus, a total of four themes emerged from the coding of the data. These themes are; visual impairment, being gifted, physical handicaps, and other handicaps. The difficulties experienced by the individual in his life particularly in his education life and how he has overcome them will be explained in detail under the heading of “themes”. It has been attempted to come up with a holistic picture through descriptive analysis by classifying the themes and codes emerging from this analysis.

### **Researcher’s Role**

In a qualitative research, researchers can be part of the research, subject, participant, participant observer and active participant. In this context, the first author of this article is directly a part of this narrative study because he/she has a long-term friendship relationship with the participant of the current study dating back to adolescence years. The researcher lived in the same site as the participant during high school period and went to the same school using the same school service. Their friendship, which started in the first years of high school, is still continuing even though they don't meet very often because they live in different cities.

In this context, it is necessary to describe what the participant looked like in the eye of the first author of the research before this friendship relationship. The sentences used by the first author to describe Akin are given below:

Akin was different. His appearance was particularly different. You may notice the appearance of someone the first time you meet, but when you get to know a person's personality, his/her appearance loses its importance. But the most prominent feature of Akin was his cheerful personality. I remember Akin constantly making us laugh on all our trips to school. Spending time with Akin was very enjoyable at that time, still very enjoyable. Akin was no different to me from my other friends. His eyes could see a little less. His skin colour was different, but Akin was a very normal person to me. Even his image in my mind was that he was very intelligent, hardworking and very successful. I was aware that he had difficulty in some situations during his school years, but Akin was certainly able to handle every situation. That's why I didn't realize that Akin was a person with special needs until I talked to Akin about a project about other Albino students. [The researcher-research notes]

In addition, we need to point out that the first author of the article knew more or less the other participants in the immediate vicinity of Akin. Akin's mother was not completely unfamiliar to the researcher because she lived in the same environment. In addition, the researcher knew Akin's friends directly as the researcher attended the same high school. Furthermore, the trust-based relationship the researcher has established with Akin since their childhood was an important factor in making this study easier. This close relationship has created an environment for us to easily guide the questions in the interviews we have conducted during the research and also for Akin to answer these questions sincerely. Moreover, in the current study, there are traces of the common life of the researcher with Akin.

## Validity & Reliability

In order to ensure the internal validity of the study, all the data of the study were recorded with a voice recorder. All data were analysed by the researchers simultaneously. All the transcribed data were shared with Akin, his mother, his friend and his teacher for the confirmation of the participants. After this analysis, the researchers cross-coded all the data and created the sub-codes. After a long while, these codes were coded once more. Thus, consistency was accomplished with the first codes. In order to ensure the trustworthiness of the research, the data obtained from the interviews were given in the text by means of the direct quotation method.

## FINDINGS

The findings of the current study are collected under four themes. These themes are; difficulties experienced by him due to his visual impairment and the strategies he has developed to cope with these difficulties, difficulties experienced due to his physical disadvantages and ways of overcoming them, being gifted and socio-emotional difficulties.

### Difficulties Experienced due to Visual Impairment

According to Akin's health reports, he has 90% visual loss due to albinism. Thus, Akin is a person who can see a little. Therefore, he needs to develop some strategies to overcome the difficulties caused by his visual impairment. The solutions he has developed for the difficulties he has experienced are given in Table 1. These difficulties can be gathered under four different main headings. These headings are; difficulties experienced by a student in following classes, reading difficulties, health problems due to visual impairment, and psychological difficulties (motivation, the sense of being dependent etc.).

**Table 1. Solutions Developed for Difficulties Resulting from Akin's Visual Impairment**

Difficulties	Solutions
Difficulties experienced in following classes	Informing teachers by his mother and himself so that teachers' awareness could be raised
	Provision of the course materials by the teacher (Akin generally wanted the teacher to provide the lesson notes before the lesson.)
	Standing up in the class and coming to the board to read what is written there
	Wanting help from his classmates sitting next to him
Reading difficulties, not being able to read	Wanting big font and bold text
	Using lenses, binoculars, glasses
	The family's reading the lecture notes at home and copying them to larger papers
	Developing his own strategies (such as turning the paper and then counting to read zeros, strategies not to fall behind in the exam)
Other health problems resulting from visual impairment (Headache)	Constantly using medication for headache and trying to manage pain with effective time management
Psychological difficulties (thinking that he will be unsuccessful and sense of being dependent)	Taking the risk of trying even the things he thinks he can't make
	Trying new ways and producing solutions in order not to ask others continuously for help

The above-mentioned difficulties may be described as the common problems of the visually impaired. In general, suggestions proposed in the literature to support visually impaired individuals to deal with the above-mentioned difficulties through teacher education, notifications, regulations and laws are now considered in Turkey. However, given that the first legal regulation on the disabled was made in 2005, it can be said that this awareness was quite limited during the periods when Akin was a student. Therefore, for all the difficulties experienced, Akin himself or his family had to find solutions. His mother was always in contact with the school. She was a classroom mother (a term used for the voluntarily supporting mother of a student in the regular classroom) in Akin's elementary school, and was an active member of the school-parent association in middle and high school. His mother always

observed his son from afar during school. Generally, the mother was the first person to explain the special needs of Akin to teachers. In addition, Akin stated that he himself had to give information to teachers about his visual impairment many times in the school and that he had to remind his special issue. However, he explains that he often hesitates to ask for something in order to remove the limitation of his visual impairment at school or in life. This psychological difficulty experienced by Akin has an impact on his whole life.

It's very uncomfortable to demand something from others; I would only ask once or twice for something and explain my situation, then ask them (teachers) to understand, remember and act accordingly. Yet, they sometimes used to forget it. In the sixth grade's English exam, although I reminded the teacher that I needed a paper written in large sized typing and with good printing, a faint paper came to me. I couldn't do anything; I remember getting a very low mark, crying too much. [Akin - Interview 1]

Some of the teachers at the school also helped him to overcome the difficulties he experienced at school. Akin states that he cannot especially forget the support given by the chemistry teacher throughout his school life. Throughout the whole process, this teacher gave him all his lecture notes, all his worksheets, and the extra questions he prepared on a larger sheet, without waiting for him to specifically request it. In addition, he also states that he met with teachers who caused him to lose his motivation. For example, when he told a teacher about his desire to become an engineer and study at one of the best universities in Turkey, he remembers painfully that the teacher commented, "Maybe you won't succeed" by reminding him of his visual impairment. He says that when he encounters such situations, he is very hurt, emotionally worn and crying. It can be said that teachers' approach to all students affects student's motivation but more profoundly the students with special needs.

As a visually impaired individual, Akin is not able to read an article written on an A4 sized paper and typed in size of 12 points. He has to use large lenses, binoculars and a special digital eyeglass, which he had acquired when he was an adult. He has to look at the A3 sized paper with 24 points typing sized from 5 to 10 cm away with lenses. He can read the blackboard with binoculars.

He had binoculars and lenses; he always had binoculars and lenses in his hands; in turn he used binoculars and then lenses in the lesson ... He used to keep the lenses very close to the paper, there was 5 cm distance between the lenses and the paper... Now I look back and realize that Akin did something wonderful . [His Friend-Interview-1]

In addition to the difficulties directly associated with the visual impairment mentioned above, Akin has another problem caused by Albinism. Besides being able to see little, his eyes have the problems of nystagmus and not being able to focus on something. Nystagmus deteriorates his visual capacity more. He needs to find different solutions to this problem. He explains how he has found a solution to his problem of reading numbers as follows: "*As I have the problems of nystagmus and focusing, I cannot read large numbers having many zeros. Then I turn the paper and count them by marking with a pencil.*" [Akin- Interview-1]. His problem of focusing (nystagmus) resulting from his visual impairment causes severe headaches. However, he describes his intrinsic motivation by saying "*I can't stand aside because of my headache, it's part of my life, I have to go on.*" In the last semester of high school close to the university entrance exam, his family bought him "glasses" specially developed for individuals with albinism. However, he had to attend a three-month course to learn how to use the glasses. Akin practiced with the glasses every day until the exam. Simply, wearing these glasses was also very tiring and it took time to get used to them. Unfortunately, he gave up trying to use glasses until the exam and focused on his lessons. He later learned to use these glasses by himself.

Akin stated that the most difficult period in his life was the process of preparing for university. For admission to the university in Turkey, it is necessary to take the university entrance exam and obtain a score from this standardized test(s). All students are admitted to the university according to their score taken from this exam. This is a multiple-choice itemed test with all students entering at the

same time within a given limited period of time. Akın was also required to take this exam in order to attend the university. In this exam, readers are only provided for students who are visually impaired. However, he did not ask for a privilege appropriate to his situation in the university exam because he did not succeed in a previous exam in which he received the support of a reader and explains this situation as follows:

At that time, after elementary school, the Anatolian high school exam was taken. Then we asked for an assistant teacher. But getting used to his/her reading, understanding his/her tone of voice, asking him/her to read it again, and so on, was difficult, I did not get the result I wanted in the exam. [Akın, Interview-3]

As can be seen, requesting something from someone was difficult for Akın. Therefore, he did not ask for a reader and did not ask for extra time in spite of his visual impairment. Thus, like average students, he had to answer a total of 180 questions within 180 minutes. While preparing for the exam, Akın also practiced coding every day. Here coding refers to marking of the answers on an optic form. The exam consists of verbal and computational sections.

Reading took a lot of time. In fact, the verbal section is easy for many students if you can read, because it is just reading and understanding. However, it takes me more time to read small writings. Therefore, I focused more on the computational section in the exam and in a short time I finished this section by solving some problems in my mind; thus, I had more time for the verbal section. [Akın, Interview 3]

Akın, as an individual with visual impairment, stated that reading skill was a more difficult skill for him; thus, he accelerated more in the computational section and overcame this difficulty because he devoted more time to the verbal section because reading was more difficult for him than solving a mathematical problem in his mind. Akın, who was able to overcome these difficulties in any case, gained the right to receive engineering education in an English-medium state university.

### **Being a Gifted Student**

Given all the things accomplished by Akın, although he is a visually impaired student (scores from standard tests, academic achievements, characteristics of early development), he can be regarded as gifted. Throughout his education, he loved school and learning. Although he was good at subjects such as history, geography, literature, he was more successful in computational subjects such as mathematics, physics, and chemistry. One of his close friends described Akın as follows in this regard: *“When I close my eyes, I always remember Akın on the blackboard, solving the physics and mathematics problems and explaining their solutions to us. While we were just looking at the problems, he used to solve the problems immediately.”*

It can be said that the most important difficulty for Akın related to his giftedness is his not being able to receive education at his own pace. Particularly, the most important difficulty faced by Akın in his school life was the limitation of the teaching techniques used by teachers. Most teachers used to deliver their lessons with a strategy that highlights operational information. His most important feature is that he can construct all the information in his mind with conceptual knowledge, even though he is visually impaired. He explains this as follows: *“Physics, chemistry; such courses have logic. They can be understood through construction in the mind.”* One memory of Akın related to geometry course is a good example of this:

My geometry was very bad when I was in the second grade in high school; once I got a grade 4 out of 100. The teacher used to teach the subjects by telling “do this, do that”; thus, I could not construct them in my mind; then I myself studied, I created connections. Then I had no problem with geometry. [Akın- Interview 2]

As mentioned above, although he is virtually impaired, he could meet his educational needs at home on his own that could not have met by his teachers at school. In addition to all this, he says that he does not easily forget something he has learned, and that he has become more advantaged than other students have, because he has built it in his mind. For example;

I was able to solve the problems that other students could solve after completing 10 steps of process in 4-5 steps. I could solve some parts of the problem in my mind. In this way, I made myself less dependent on tools such as paper, lens. Moreover, I do not need to see everything; if someone explains it to me; I can visualize it as three-dimensional in my mind. [Akin, Interview 2]

When we asked about the process in which his education was best supported in his school life, Akin talked about the process of university preparation courses taken in an out-of-school education environment. His family sent him to a private course to help him prepare for the university entrance exam. Akin continued his university preparation courses in this private course when he was in the second and third grade of high school. In this private course, he was instructed together with students who were much better than his high school classmates. He is of the opinion that his maths teacher in this course was a very special teacher. He defined this teacher as “*Very rhythmic, dynamic and teaching many things in short time*”. Thus, it seems that Akin felt better when he took lessons in a better class than his class at the school and in a pace close to his own learning pace. In this respect, although it was attempted to meet his educational needs with the support of his family, it is difficult to say that as a gifted student he received an appropriate education at exactly his own pace, his talents were discovered and supported consciously.

### **Physical Difficulties Caused by the Sensitivity of his Skin**

Since individuals with albinism are white and do not have colour pigment on their skin, their skin is damaged when exposed to direct sunlight and burns. Therefore, since early childhood years, he should not be exposed to direct sunlight, should not be outdoors when the sun's rays are upright, and should use sunscreen even at short times when he is outdoors. This makes his life more restricted and obliges him to be more careful. Therefore, he needs to be careful when he is outside because his sun sensitivity will last forever. This bad situation has also been alleviated with the support of the family. For example, when they go on holiday, the whole family spends time together at home when the sun's rays are steeper. Akin explains this as follows: “*I used to stay at home yet I was never alone; the whole family was with me; we used to play card games or okey game and we used to swim when the sun was just rising or setting*”. At other times, his mother was always with Akin and supported him. When he was at school, he used to put his sunscreen before going out in each break and he did not go out in some breaks.

### **Socio-Emotional Difficulties**

#### ***Dealing with Negative Reactions related to Physical Appearance***

One of the most important disadvantages that Akin has experienced throughout his life is that he looks physically different. The whole body of people with Albinism is white; therefore, they always attract attention with their physical appearance. This situation has brought with it some emotional and social difficulties (struggling with negative reactions, fear of being embarrassed, and limitations of sun sensitivity) throughout their lives. This explained by Akin as follows:

It has become the routine of my life since the first years of my life. Children on the streets, teenagers, people you don't know stare at you, you feel that people are looking at you in any environment. Other children, young people call you as “light bulb, grandfather, white head ...” They make fun of you. The people around frequently ask “why are you so white?, why do you look like this?”. [Akin, Interview -2]

His friend states that when Akin experiences such situations, he usually ignores, seems to be unconcerned or indifferent. He is generally known as a person who is not nervous, calm and nonaggressive. However, Akin states that it is not always easy to cope with such situations. He stated that when he was younger, he fought with a child living on the same street and that he battered a child from a lower class when he was in high school. His family tried to offer him a life free from violence from early ages.

Akin states that situations including negative reactions can sometimes be very annoying and infuriating and that he is not upset when he experiences such situations within his close circle, but that he is uneasy when he is with someone he has just met and does not know how to behave. At this point, the family plays an active role in the school-parent association and provides the teachers with the necessary information. The family closely monitors his development, but allows him to solve his own problems. They do not directly intervene in the problems and try to help only by offering psychological support. Akin summarizes this situation as follows: *"I felt the support of my family but I didn't feel that they intervened in my problems, I was solving my own problems myself."* Yet, his reactions vary according to different social environments. Since he has such problems less in the districts where the education level is higher, he prefers these districts more for social activities. He also states that he did not experience much exclusion as a child. He stated that although children remained a little distant from him, being in a socio-cultural environment with educated families was an advantage.

### ***Fear of Being Embarrassed***

Akin says that as he is different, he is much more noticed. When he misbehaved in his childhood, it was easy to find him. Thus, he always avoided misbehaving because according to him, it is possible for people not to forget him forever when they have seen him even once. He summarizes his relevant experiences as follow.

When I go somewhere I'm very afraid of making any mistakes, for example, accidentally entering the girls' bathroom because I know I am different and everybody remembers me. I can be remembered as "the boy doing this silly thing". Though I'm not a shy person, this makes me feel some concerned. Moreover, when I need to meet someone in a place, I can't find the person I will meet. Even if they are sitting just in front of me, I cannot recognize them. They need to find me; they need to recognize me. If they don't recognize me, walking around in the place makes me really frustrated because I am already eye-catching, different; while I am walking around I draw more attention. It is a highly disturbing situation. [Akin, Interview -3]

First of all, it is necessary to state that Akin does not wear glasses, does not use a cane, and it is not possible to find out that he has some problems in his eyes when seen from outside. As he emphasizes, it is possible for a visually impaired individual to make many mistakes by accident. Even a situation like entering the wrong toilet, which seems to be a very common mistake, seems to be a source of stress for him because such individuals can both make mistakes and be noticed by everyone and thus be remembered. I, the first author, remember that Akin told me about such experience in our previous conversations as follows: *"There are thousands of students at the university; but I am the most famous one."* In fact, it was really easy to notice him among thousands of people. Such a figure is recognized mostly because of his physical features and remembered when seen again.

### ***Competences, Limitations and Motivation***

Being disadvantaged brings with it some limitations. Any ordinary thing that any child can do can be a major challenge for children with special needs. At this stage, one of the most important findings of this study is to realize that Akin lived a life in which he realized his own limitations and difficulties from his childhood onwards because he always emphasizes that his family is his supporter

and that they never tell him “*You cannot do it, you cannot succeed*”. For example, his family gave him binoculars and a lens at an early age to support his vision as a “present”. These things are defined as “present” by Akin himself. This definition of Akin is highly remarkable. We can say that his family has never made him feel needy, but rather they have given their support by giving presents and given this support kindly without hurting him.

It is also possible to give more examples that are specific. For example, Akin wanted to be an officer during his secondary school years. For someone to be an officer, he/she should not have any physical defects and must be completely healthy. Although his father was a non-commissioned officer, he never told Akin that he could never be an officer. When he finished high school, he got the necessary document for applying to the military school and when he read the conditions himself, he realized that he could never become an officer. Like all boys aged 15, he wanted to drive. This event is an important proof of how Akin's family supported him. Akin explains this as follows.

I really wanted to drive. One day my father took me to a completely empty land to drive. When I got behind the wheel and did what I was told, I realized that this is not something I could ever do. This is not safe for me and for other people. I am sure that my parents knew that I couldn't drive and I couldn't get a driver's license, but they didn't tell me that either. I realized myself that I could never drive. This is very important actually, I discovered it myself. My parents didn't say what I couldn't do - my limits. I determined my own limits; I noticed what I could be and couldn't be. I was confronting myself. [Akin, Interview- 1]

Throughout his life, Akin has been on his way to discover his boundaries and realize himself. For example, he joined them when he wanted to play football with his friends. He wasn't a goalkeeper in football, but he joined his friends as a defender. He explains how he played football or basketball as “*I played by feeling*”. It is possible to say that their schoolmates also supported him without making him realize. Below is an excerpt from Akin's friend about an incident:

Akin was, to me, very normal; most of the time we would forget that he was different, one day we would play basketball at school and there were 11 of us... He was playing basketball but he wasn't so good ... Akin remained outside the teams, while we were playing, I realized that Akin wasn't there. When I found him, he was carrying... We felt remorse ... Of course, we never did it again ... We tried to be more sensitive... [His Friend, Interview-1]

Aside from this, it is also possible to say that Akin is a highly motivated individual because he has drawn a personality pattern that never gives up despite all the difficulties.

I was doing gymnastics in preschool period. Once I could not see the baguettes and fell, but I did not give up and continued. Then I did karate in elementary school. I used to play basketball and football at school with friends. I didn't withdraw myself from anything. I was doing as much as I could. I tried playing the guitar but I couldn't see the music. I became a DJ at university. I joined the Latin dance group. You don't have to see very well to be a DJ or to dance.[Akin, Interview-2]

He is aware of his own limits and competences. In this context, he tries to realize his dreams, to be the best; not to be left behind in life. This is something that he himself expresses in his daily conversations. In the conversation below, his friend reflects this awareness:

One day he told me that he was visually impaired and physically disadvantaged and if he could not go to a good school and get a good education, he could not find a job when he had graduated from an ordinary school. [His Friend, Interview-1]

Akın, who works hard and tries to develop himself rejects some of the opportunities provided by the state for the disadvantaged. For example, he has never taken special exams for people with disabilities. He explains this in his own words.

I have thought a lot about the opportunities offered to the disadvantaged, but I cannot accept this. I say I can fight as much as I can. However, one day I can lose all my sight and lose all of this because of all this effort. I am afraid, but I cannot confess this even to myself. [Akın, Interview3]

He is an inquiring, questioning, criticising and conscious person. As mentioned above, he is concerned about losing his sight completely one day. However, despite all these concerns, he clings to life. The main reason why he wanted to get a PhD degree is that if he cannot work so intensely due to health problems in the future, he will somehow want to continue his life by giving part-time lectures as a part-time staff at universities. In fact, since the early years of his life, he has spent all his life planning meaningfully. His mother has the most important role in that period. It is his mother who directs Akın to earn a PhD degree, provides guidance for his future plans, and who is in constant contact with Akın like a friend. Akın is a good example for any 2E student and individual with his/her accomplishments, self-actualization, courage and perseverance in his life.

## DISCUSSION & CONCLUSIONS

The most striking finding of the current study is the support given by his family to Akın's development. Neumeister et al. (2013) and Trail (2006) pointed out that parents have distinct roles in supporting their twice-exceptional children. In the current study, it is seen that Akın's family has always been supportive. Akın's family's approach has led him to explore his own boundaries, to dare, to try repeatedly. It is seen that especially his mother plays an important role in helping his child to draw his own limits and ask for help when he needs it. His mother supported Akın's development by participating in the school-parent association, monitoring the school life of her son without being noticed by him, informing the people around him when she deemed important and always making life easier for him. Thus, we can conclude that for 2E students, having a part of a supportive family and/or an ongoing family support is a game changer.

Another important finding of the current study is the socio-cultural environment of Akın, which was mainly shaped by his family, and the support and acceptance he received from this environment. In their study investigating the effect of the support of parents, teachers and peers on the academic achievement or failure of twice-exceptionals, Wang and Neihart (2015) emphasized that peer support is the most frequently mentioned support. The result of the current study also concurs with this finding reported by Wang and Neihart (2015) because, despite being different and disadvantaged, Akın has been accepted socially and completed his development by receiving support from his friends without being excluded in an educated and sensitive environment in many respects. His friends in particular have emphasized that they see Akın as a normal individual and that they generally forget his visual impairment. Barber and Mueller (2011) and Neihart (2008) have suggested to foster twice-exceptionals' psychological and behavioural well-being, which in turn will positively affect their learning and motivation. In this context, the current study may show that access to peers among which 2E children are accepted and a positive social environment in which awareness of and sensitivity towards such children are high can contribute to the provision of the social support needed by many disadvantaged students throughout their lives.

In addition, Dare and Nowicki (2015) found that 2E students have extremely weak and strong sides. Once they have been identified with 2E, educators focus on supporting their weak sides. These children experience an intense sense of being different yet they desire to be accepted and that their parents support them well and they go outside the school system to find the answers they need. The current study has also revealed that Akın has received the support he has needed mainly from his family. It is seen that his family has contributed to the fulfilment of both his psychological and educational needs outside the school. However, as research findings revealed that teachers are less

likely to meet gifted potentials when student is disadvantaged (Bianco, 2005; Bianco & Leech, 2010); there is a need for teachers to be focused on 2E students' both weak and strong sides, simultaneously. Therefore, students like Akin may have a better chance receiving supports from both family and school.

Furthermore, in order to seek for potentially gifted students in regular classrooms; teachers need to have trained about 2E students and they need to apply specific tools focusing on nominating the potentially gifted 2E students for identification practices. Apart from this, as research suggested that there is a strong probability (9/10) of being identified as gifted when potential 2E students are nominated by their peers or themselves (Davis, Rimm & Siegle, 2013; Eisenberg & Epstein, 1981). Current study partially supported this finding on the basis of Akin's friend's awareness of Akin's potential and gifts. Thus, authors of this article strongly recommend applying self-peer-parent nominations with teacher nominations to uncover the potentially 2E students more effectively.

Twice-exceptional students may experience behavioural and emotional problems (Baum, Cooper & Neu, 2001). The findings of the current study partially overlap with these problems. It has been seen that Akin has not generally experienced behavioural problems but has had to struggle with emotional problems. It is also seen that although Akin is highly motivated and his academic success is quite high, he has had some psychological difficulties and emotional problems. However, Akin has always developed different strategies to overcome these problems, thus his problem solving skill is highly developed. Therefore, despite all his disadvantages, Akin has been able to become a happy adult with satisfaction in his private and business life with the support he has received from his family and his close environment.

In case of frustration or lack of effective external support, twice-exceptional students may become vulnerable to situations such as discouragement, depression, anxiety, withdrawal or unexpected failure (Neihart, 2008). However, it is seen that Akin has been able to carry his whole life to a very successful line with the strong support from his family and the acceptance and approval from his environment throughout his life. Thus, with the right approach and family support, it is possible for gifted but disadvantaged individuals to overcome negative situations in their lives and become strong and successful individuals. When Akin's whole educational life is examined, it is seen that Akin has achieved a successful career by overcoming all difficulties with the support of his family. In this respect, it is seen that strengthening of family and social environment can make important positive contributions to the lives of 2E students. Even if they are disadvantaged, gifted students can be successful in a social environment where awareness is high.

Last but not least, when 2E definitions examined, it is possible to say that definitions mostly focus on identifications with ASD, LD and ADHD (Assouline, Nicpon & Doobay, 2009; Foley-Nicpon et al., 2011; Gallagher, 2009; Lupart & Toy, 2009; Reis, Baum & Burke, 2014). However, few research findings addressed gifted individuals with different special needs such as visual impairment, hearing impairment/deafness, social, emotional and behavioural disorders, impulse control disorders and depression (Gök, Baş & Avcı-Tuncay, 2018; Lupart & Toy, 2009; Sisk, 2003; Starr, 2003; Winstanley, 2003). Current study also revealed that gifted potential is likely to occur with some of the rare genetic diseases or disadvantages such as albinism. Therefore, students' potential of being gifted and his/her disadvantages have to be included in 2E definitions and being 2E is supposed to have examined separately in order not to let the disadvantage cover the potential of being gifted.

## REFERENCES

- Anderson, K. (2000). *Gifted and talented students: meeting their needs in New Zealand schools*. Wellington: Learning Media.
- Assouline, S. G., & Whiteman, C. S. (2011). Twice-exceptionality: Implications for school psychologists in the post-IDEA 2004 era. *Journal of Applied School Psychology, 27*(4), 380-402.

- Assouline, S. G., Nicpon, M. F., & Doobay, A. (2009). Profoundly gifted girls and autism spectrum disorder: A psychometric case study comparison. *Gifted child quarterly*, 53(2), 89-105.
- Baldwin, L., Baum, S., Pereles, D., & Hughes, C. (2015). Twice-exceptional learners: The journey toward a shared vision. *Gifted Child Today*, 38(4), 206-214.
- Barber, C., & Mueller, C. T. (2011). Social and self-perceptions of adolescents identified as gifted, learning disabled, and twice-exceptional. *Roeper Review*, 33(2), 109-120.
- Baum, S. M., Cooper, C. R., & Neu, T. W. (2001). Dual differentiation: An approach for meeting the curricular needs of gifted students with learning disabilities. *Psychology in the Schools*, 38(5), 477-490.
- Bianco, M. (2005). The effects of disability labels on special education and general education teachers' referrals for gifted programs. *Learning Disability Quarterly*, 28(4), 285-293.
- Bianco, M., & Leech, N. L. (2010). Twice-exceptional learners: Effects of teacher preparation and disability labels on gifted referrals. *Teacher education and special education*, 33(4), 319-334.
- Brody, L. E. & Stanley, J. C. (2005). Youths who reason exceptionally well mathematically and/or verbally: Using the MVT:D4 model to develop their talents. In Sternberg, R. J. & Davidson, J. E. (Eds). *Conceptions of giftedness* (2<sup>nd</sup> ed.) (pp. 20-37). Cambridge: Cambridge University Press.
- Corn, A. L., & Lusk, K. E. (2018). Reports from parents about medical and low vision services for their children with albinism: An analysis. *Journal of Visual Impairment & Blindness*, 112(6), 655-666.
- Dare, L., & Nowicki, E. A. (2015). Twice-exceptionality: Parents' perspectives on 2e identification. *Roeper Review*, 37(4), 208-218.
- Davis, G. A., Rimm, S. B., & Siegel, D. (2013). *Education of the gifted and talented* (6th Ed.). Pearson, USA.
- Elkind, J. (1973). The gifted child with learning disabilities. *Gifted Child Quarterly*, 17(2), 96-97.
- Feldhusen, J. F. (2005). *Giftedness, talent, expertise and creative achievement*. In Sternberg, R. J. & Davidson, J. E. (Eds). *Conceptions of giftedness* (2nd ed.) (pp.64-79). Cambridge: Cambridge University Press.
- Foley-Nicpon, M., Allmon, A., Sieck, B., & Stinson, R. D. (2011). Empirical investigation of twice-exceptionality: Where have we been and where are we going?. *Gifted Child Quarterly*, 55(1), 3-17.
- Foley-Nicpon, M., Assouline, S. G., & Colangelo, N. (2013). Twice-exceptional learners: Who needs to know what?. *Gifted Child Quarterly*, 57(3), 169-180.
- Freeman, J. (1995). Annotation: Recent studies of giftedness in children. *J. Child Psychol. Psychiat.* 36(4), 531-547.
- Gallagher, J. J. (2009). Controversies in gifted education. In B. Kerr (Ed), *Encyclopedia of giftedness, creativity and talent* (pp. 173-176). Sage Publications, London.
- Gök, B., Baş, Ö., & Avşar-Tuncay, A. (2018). A Twice-Exceptional Child-A Case Study. *International Journal of Progressive Education*, 14(2), 57-76.

- Johnson, L. J., Karnes, M. B., & Carr, V. W. (1997). Providing services to children with gifts and disabilities: A critical need. *Handbook of gifted education*, 2, 89-108.
- Lupart, J. L., & Toy, R. E. (2009). Twice exceptional: Multiple pathways to success. In L. V. Shavinia (Ed.) *International handbook on giftedness* (pp. 507-525). Springer, Dordrecht.
- Maker, C. (1977). *Providing programs for the gifted handicapped*. Bureau of Education for the Handicapped (DHEW/OE), Washington, DC.
- Marland, S. P. (1971). *Education of the gifted and talented - Volume 1: Report to the congress of the United States by the U.S. commissioner of education*. Washington, DC: Office of Education (DHEW).
- Matthews, D. J. & Foster, J. (2005). *Being smart about gifted children: A guidebook for parents and educators*. Scottsdale, Arizona: Great Potential Press.
- National Education Association. (2006). *The twice-exceptional dilemma*. Washington, DC. Retrieved from <http://www.nea.org/assets/docs/twiceexceptional.pdf>.
- Neihart, M. (2008). Identifying and providing services to twice-exceptional children. In S. Pfeifer (Ed), *Handbook of giftedness in children* (pp. 115-137). Springer, Boston, MA.
- Neumeister, K. S., Yssel, N., & Burney, V. H. (2013). The influence of primary caregivers in fostering success in twice-exceptional children. *Gifted Child Quarterly*, 57(4), 263-274.
- NOAH, (2015). Albinizimli bir çocuk yetiştirmek. (Çev. Albinizm Derneği). H2O kitap, İstanbul.
- Reis, S. M., Baum, S. M., & Burke, E. (2014). An operational definition of twice-exceptional learners: Implications and applications. *Gifted Child Quarterly*, 58(3), 217-230.
- Renzulli, J. S. (1986). The three ring conception of giftedness: A developmental model of creative productivity. In Sternberg, R. J. & Davidson, J. E. (Eds). *Conceptions of giftedness* (pp.53-92). New York, Cambridge University Press.
- Rinn, A. M. (2009). Attention deficit hyperactivity disorder. In B. Kerr (Ed), *Encyclopedia of giftedness, creativity and talent* (pp. 72-74). Sage Publications, London.
- Ronksley-Pavia, M. (2015). A model of twice-exceptionality: Explaining and defining the apparent paradoxical combination of disability and giftedness in childhood. *Journal for the Education of the Gifted*, 38(3), 318-340.
- Silverman, L. K. (1989). Invisible gifts, invisible handicaps. *Roeper Review*, 12(1), 37-42.
- Silverman, L. K. (2009). The two-edged sword of compensation: How the gifted cope with learning disabilities. *Gifted Education International*, 25(2), 115-130.
- Sisk, D. (2003). Gifted with behaviour disorders: marching to a different drummer. In D. Montgomery (Ed), *Gifted and talented children with special educational needs: Double exceptionality*, (pp. 131-154). London: David Fulton Publishers.
- Starr, R. (2003). Show me the light – I can't see how bright I am: gifted students with visual impairment. In D. Montgomery (Ed), *Gifted and talented children with special educational needs: Double exceptionality*, (pp. 93-109). London: David Fulton Publishers.
- Sternberg, R. J. & Zhang, L. (1995). What do we mean by giftedness? A pentagonal implicit theory. *Gifted Child Quarterly*, 39(2), 88-94.

- Tannenbaum, A. J. (1997). The meaning and making of giftedness. In Colangelo, N. & Davis, G. (Eds). *Handbook of gifted education* (2<sup>nd</sup> ed) (s. 165-180). Boston, MA: Allyn and Bacon.
- Terman, L. (1925). *Genetic studies of genius. Vol.1. Mental and physical traits of a thousand gifted children*. Stanford, CA: Stanford University Press.
- Trail, B. (2006). *Parenting twice-exceptional children through frustration to success*. National Association for Gifted Children Publication. Retrieved from <http://www.starjump.com.au/media/Papers%20%20Articles/Parenting%20Twice%20Exceptional.pdf>
- VanTassel-Baska, J. (2005). Domain-specific giftedness: Applications in school and life. In Sternberg, R. J. & Davidson, J. E. (Eds). *Conceptions of Giftedness* (2<sup>nd</sup> ed) (pp.358-376). New York, Cambridge University Press.
- Wang, C. W., & Neihart, M. (2015). How do supports from parents, teachers, and peers influence academic achievement of twice-exceptional students?. *Gifted Child Today*, 38(3), 148-159.
- Winstanley, C. (2003). Gifted children with hearing impairment. In D. Montgomery (Ed), *Gifted and talented children with special educational needs: Double exceptionality*, (pp. 110-130). London: David Fulton Publishers.
- Witty, P. (1958). Who are the gifted? Role of gifted persons in social progress. In Henry, N.B. (Ed.). *Education for the gifted* (pp. 41-64). Chicago: University of Chicago Press.