

## Research Article

# The basic concepts of redesigned giftedness theory: From the perspectives of preservice primary school teachers

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### Article Info

**Received:** 12 October 2020  
**Revised:** 13 November 2020  
**Accepted:** 11 December 2020  
**Available online:** 15 Dec 2020

### Keywords

Giftedness  
Implicit theories on giftedness  
Preservice teachers  
Theories of giftedness

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### Abstract

This study is aimed to study on the points of views of preservice primary school teachers who take the elective course on “Gifted Students and Their Education”. The preservice primary school teachers were asked to redesign and shape the theory of giftedness for their country (Turkey). Thirty preservice teachers selected for the research as participants. The ideas of preservice teachers were applied to content analysis. The preservice primary school teachers frequently stated that chance, creativity, value, environment, motivation concepts when redesigning the theory of giftedness for Turkey according to the results of the study. They were highly impressed by the theories and theoreticians like Gagne’ (2004) A Differentiated Model of Giftedness and Talent (DMGT), Stenberg and Zhang’ (1995) A Pentagonal Implicit Theory, Tannenbaum’ (1983) Psychosocial Classification Theory, Renzulli’ (1978) Three Ring Model of Giftedness. It is remarkable that the concept of chance is widely used among the preservice teachers in redesigning and shaping the theory of giftedness for their country. Quotations about views of preservice teachers were also presented.

## To cite this article

Tortop, H.S. (2020). The basic concepts of redesigned giftedness theory: from the perspectives of preservice primary school teachers. *Journal for the Child Development, Exceptionality and Education*, 1(1), 21-29. DOI: <https://doi.org/10.5281/zenodo.14878220>

## Introduction

Theorists who put forward theories about giftedness are influenced by the social and cultural structures of the society they belong to. They put their own experiences, personal beliefs and views into consideration when creating their theories. That’s why the concept of giftedness varies from place to place, and it is shaped by the values of the society on the basis of the social structure it belongs to (Borland, 2004; Tannenbaum, 1986; Sternberg, 2007; Sak, 2011; Pfeiffer, 2003; Winner, 2000; Amiri, 2020). According to the modern science paradigm, the scientific thinking is developed by the scientists adding their thoughts, views and beliefs into scientific method (Kuhn, 1962). The first paradigm associated with giftedness is explained based on IQ scores of Spearman's (1904), "g" (Ford, 1996). However in this approach there occurred a different paradigm change; it lacked an ideal way to measure intelligence (Renzulli, 2005); and there were arguments about IQ tests with which they mostly measure academic success (Gagne, 2009). The concepts of giftedness began to be disclosed with multidimensional conceptions of giftedness (e.g. Theory of Multiple Intelligences (Gardner, 1983), Gagné’s Differentiated Model of Giftedness and Talent, Sternberg’s Triarchic Theory of Intelligence, and Renzulli’s Three Ring Conception of Giftedness). However it is impossible to consider the applications will be made in accordance with the explanations of these models and theories of giftedness apart from the cultural and social structures. There are many studies on the fact of giftedness in different cultures and societies about how giftedness is being perceived differently. For example, in Finland if giftedness is mentioned social communication skills, cooperation and problem-solving skills come to mind (Raty & Snellman, 1995), in Korea it is social responsibility (Lim, Plucker & Im, 2002), in Africa it is problem solving and creativity (Ngara & Parath, 2004),

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in China loyalty and obedience is the sign of giftedness (Chan, 2007), in Turkey it is practical problem-solving and logical thinking (Sak, 2007; Özdemir & Demirel, 2012). The characteristics of gifted individuals are different in each country. It is seen that the cultures agree on implicit theories of giftedness at some points like problem solving and creativity while in the eastern culture personal relationships, leadership are at forefront. In western culture critical and creative thinking are at the forefront as separation points (Demirel & Sak, 2011). Besides, implicit theories associated with success, intelligence and creativity are thought to affect individuals' learning behavior, attitudes and perceptions (Blackwell, Trzesniewski, & Dweck, 2007).

Educators have a very important role in the identification of gifted students and their development process. Their scientific and accurate approach, attitudes to "giftedness" phenomenon will affect the training of the gifted students (Lassig, 2009; Moon & Brighton, 2008). It can be said that the IQ score based paradigm about giftedness has still maintained an effect on schools and educational practices. Among the reasons of this issue is the lack of awareness and knowledge of teachers about multidimensional conceptions of giftedness (Callahan, 2005).

Teachers have an essential role in the identification of gifted students and their education process. However the conceptualization of teachers on the education of the gifted students especially the preservice primary school teachers' conceptualization is highly important throughout the diagnostic and training process of the gifted students (Moon & Brighton, 2008). The competence of preservice primary school teachers about the education of gifted students is highly important considering their role in the "nomination" process of gifted students (Tortop, 2014; Oswald & Villiers, 2013). In this way teachers will be enabled to move away from their traditional and simplistic approach in explaining the concept of giftedness (Callahan, 2005). There aren't many studies in the literature on implicit theories of teachers or preservice primary school teachers about the concept of giftedness. (Heller, Finsterwald, & Ziegler, 2001). However, there are many studies about teachers' perceptions of giftedness (Moon & Brighton, 2008; Maia-Pinto, & Fleith, 2002; Lee, 1999; Guskin, Peng, & Majd-Jabbari, 1998; Copenhagen, & McIntyre, 1992; Almeida, & Nogueira, 1988; Rohrer, 1995; Neumeister, Adams, Pierce, Cassady, Dixon, 2007). The question is which groups of teachers should be investigated first? The answer can be given as primary school teachers and preservice primary school teachers. That's because primary school teachers play an important role on the "nomination" stage and also in the process of special education of the gifted students (Akar & Sengil-Akar, 2012; Davis & Rimm, 1998). However, it cannot be said that teachers show a sufficient performance about their roles (Akar & Uluhan, 2013). The lack of enough knowledge and awareness of primary school teachers about the education of the gifted can be shown as the reason of this situation (Speirs Neumeister et al. 2007). It is recommended by the researchers that the teachers should be trained about the characteristics of gifted (Hansen & Feldhusen, 1990; Akar & Uluhan, 2013). What's more the attitude of teachers to gifted education varies from their level of knowledge and their training about gifted education (McCoah & Siegel, 2007). During the nomination process even if the observation forms are given to the primary school teachers, their perception of giftedness may covertly effect their own decisions. The signs can be easily understood considering the low rates of nominations in Turkey (Akar & Uluhan, 2013). Although primary school teachers have important roles in the education of gifted, it is observed that there has not been too much emphasis on undergraduate education of preservice teachers (McCoah & Siegel, 2007). The majority of teachers create the phenomenon of giftedness in their minds based on implicit theories and their own experiences (Szymanski & Shaff, 2013). In Turkey there are also researches on what implicit theories of giftedness are (Sak, 2007). However, the implicit theories of giftedness haven't been determined about the teachers who will play a significant role in the future of giftedness education.

This study aims to answer the following question of what will be the codes of giftedness which will be redesigned for Turkey by the primary school and preservice teachers in the light of theories put forward by the theoreticians besides using their own observations, experience and vision. For this purpose, the sub-problems of the research are as follows:

- What are the views of primary school teachers about which giftedness theories are more appropriate for Turkey?
- What will be the basic concepts of giftedness in theory that the preservice primary school teachers create for Turkey?

## Method

### Research Model

In this study used qualitative research methods. A case study is a research method applied when boundaries cannot be drawn on a recent case and content itself and where there are multiple sources of data. In this research model, the assets are defined and specialized according to the definition of time and space (Creswell, 2013).

### Participants

In the determination of the participants certain criteria were taken into account. Depending on this purposive sampling method and criterion sampling method is used. The criteria of this method are as follows; Participants are 3<sup>rd</sup> and 4<sup>th</sup> year students who take "Gifted Students and Their Education" as an elective course. Thirty teacher candidates (23 female, 7 male) are aimed to be the participants in the research whose average academic achievement is over 3.0 in terms of Cumulative Grade Point Average (CGPA).

### Procedure

This study is applied to Turkish students who are having their education in the department of a faculty as preservice primary school teacher. Junior and senior students, who selected the elective course named "Gifted Students and Their Education" in the fall semester of the 2013-2014 academic year learned issues related to gifted education for 14-weeks of the academic year. These issues are the history of gifted education research, theories of giftedness, and characteristics of gifted. In this course "Education of Gifted Students: Characteristics, Identifications, Educations" written by Sak (2010) is used as a source book. Elective course was conducted by the researcher. The lessons were mostly conducted by the active use of instruction method of discussion. At the end of the course period the students were asked to create a theory of giftedness that will be valid for Turkey by giving them enough thinking time. When creating this theory, participants were requested to benefit from the views of theoreticians who work in this area.

### Data Collection Tools

The question asked the participants to consider Turkey's social, economic and cultural background when creating their own theory of giftedness appropriate for Turkey in light of existing theories of giftedness. They were asked to give written answers.

### Data Analysis

The data obtained was applied to content analysis. Thirty documents were examined by two researchers. The number of the giftedness theories participants was affected and the number of the concepts they used when creating the new theory were calculated as percentage and frequency quantitatively. In addition, the statements of the preservice teachers about the concepts they want to put in their own theory were reported directly supported by quotations. The researchers had an agreement on the analyzed data (Miles & Huberman, 1994).

## Findings and Discussion

Preservice primary school teachers were asked which theories on gifted education they were affected by and which concepts they used from these theories in recreating the giftedness theory for Turkey. Their views were presented via content analysis.

### *The Giftedness Theories Influenced by the Preservice Teachers*

**Table 1.**

*The Theories Preservice Primary School Teachers Were Influenced When Redesigning the Giftedness Theory For Turkey*

The Giftedness Theories Influenced by the Teachers	f	%
Gagne's Differentiated Model of Giftedness and Talent (DMGT) (2004)	20	24.4
A Pentagonal Implicit Theory of Stenberg and Zhang (1995)	14	17.1
Psychosocial Classification Theory of Tannenbaum (1983)	13	15.8
Three Ring Model of Giftedness of Renzulli (1978)	11	13.4
Gardner's Multiple Intelligent Theory (1983)	7	8.5
Stenberg's Successful Intelligent Theory (2004)	7	8.5
Tannenbaum's Sea Star Model of Giftedness (2003)	5	6.0
Ziegler and Heller's Conceptions of Giftedness: A Meta-theoretical Perspective (2000)	3	3.6
A Emergenic-Epigenetic Model of Giftedness of Simonton (2005)	2	2.4
<b>Total</b>	<b>82</b>	<b>100</b>

It is clear that in Table 1. the preservice primary school teachers mostly influenced by the theories when recreating their own theories in such order; Gagne' (2004) DMGT (f=20), Stenberg and Zhang' (1995) Implicit Pentagonal

Theory (f=14), [Tannenbaum](#)' (1983) Psychosocial Classification Theory (f=13), [Renzulli](#)' (1978) Three Ring Model of Giftedness (f=11).

## *The Basic Concepts Preservice Primary School Teachers used in Redesigning Their Own Theory of Giftedness*

Table 2.

*The Basic Concepts Used by Preservice Primary School Teachers When Creating Their Own Theory of Giftedness For Turkey*

Concepts about giftedness theory	f	%
Chance (Lucky)	22	16.9
Creativity/productivity	20	15.3
Social Value/Value	19	14.6
Environment	16	12.3
Motivation	9	6.9
Rarity	9	6.9
Catalysts	9	6.9
Personal life/experience	8	6.1
Socio-economic status	4	3.0
Genetic/Hereditiy	4	3.0
Cognitive capacity	3	2.3
Multidimensionality of intelligent	2	1.5
Belief	1	0.1
Performance	1	0.1
Family	1	0.1
Time	1	0.1
Academic success	1	0.1
<b>Total</b>	<b>130</b>	<b>100</b>

Table 2 shows that totally one hundred and eleven concepts were determined in the content analysis. The most frequently used concepts are as follows: chance (f=22), creativity/productivity (f=20), human capital/value (f=19), environment (f=16), motivation (f=9), rarity (f=9), catalysts (f=9), personal life/experience (8), socio-economic status (f=4), genetic/heredity (f=4), cognitive capacity (f=3), multidimensionality of intelligent (f=2), belief (f=1), performance (f=1), family (f=1), time (f=1), academic success (1).



Figure 1.

*Word Cloud Created With The Basic Concepts Used By Preservice School Teachers In Creating Their Own Theory Of Giftedness*

In Figure 1 a word cloud was created with the concepts used by preservice primary school teachers when redesigning their own theory of giftedness. Frequently used concepts and their views were presented below.

### **The Concept of Chance**

It takes place in Gagne's (2004) DMGT and Tannenbaum's (2003) Sea Star Model of Giftedness. In the development of giftedness it can be said that the individual's encounter to positive or negative environmental situations is effective. Preservice primary school teachers have agreed on the idea that the concept of chance which is an important concept must take place in theory of giftedness created for Turkey. It was stated that the reason Preservice primary school teachers most frequently used the concept of chance in the theory they created is the lack of infrastructure in the state of education system in Turkey. They said that in the development of any giftedness, individuals must be supported by someone in the area that has a strong effect. Some of the quotations about the views stating these opinions are given below:

*"To be born as a child of a rich and educated family or being a child enrolling in a village school, is important in the development of talent. (Teacher 2)." "Socio-economic factor has an effect in rural areas; chance becomes important (Teacher 11). "In our country you can be intelligent but if someone does not help, you will vanish" (Teacher 27)". "There is a lack of appropriate infrastructure in Turkey in further quato talent (Teacher 29)*

The creativity/productivity concepts takes place in Stenberg and Zhang's (1995) Implicit Pentagonal Theory, Renzulli's (1978) Three Rings Theory of Giftedness, Gagne's (2004) DMGT, Stenberg's (1997) Successful Intelligent Theory. The creativity/productivity concepts which take place in many theories surprisingly are located in the second place (although the frequency of the first three concepts are close to each other) in their own theory of giftedness . However, preservice primary school teachers have also stated the creativity concept is an important concept for the giftedness. Some quotations about this are as follows:

*"In our culture creative intelligent is important, such as Nasrettin Hodja", (Teacher 30)". "In Turkey giftedness is perceived as a way to earn money and practical thinking" (Teacher 18). "A person must be productive in his/her field to be gifted. (Teacher 26). "Gifted individuals should be productive and creative (Teacher 28).*

### **The Social Value/Value Concept**

It takes place in Tannenbaum's (1983) Psychosocial Classifications Theory. Types of talents are classified into four as scarcity, surplus, quota, and anomalous talents. This classification is made up according to social needs and values (Tannenbaum, 1983). The concept of value also takes place in Stenberg and Zhang's (1995) Implicit Pentagonal Theory. For a person to be labeled as gifted, the person must be valued by his/her society (Stenberg & Zhang, 1995). Society is also among environmental factors in Tannenbaum's (2003) Sea Star Model of Giftedness. The talents valued by the society develop most (Tannenbaum, 2003). In Stenberg's (1997) Successful Intelligent Theory analytic, creative and practical intelligence has an indirect effect on analyzing the society's needs & problems including the solutions to the problems of the society (Stenberg, 1997). Direct quotations of teachers related to this concept in creating their own theories are as follows:

*"In Turkey giftedness is perceived as a way to earn money. (Teacher 18)". "Our country became a pragmatic country, because, if there is a job benefit that is ability. (Teacher 16)". "Giftedness is valued if it is in science and mathematics field only (Teacher 20)". "If the ability does not work and not beneficial to society, it is bound to be disappear. (Teacher 22)".*

### **The Environment Concept**

This concept took place in the theory of the preservice primary school teachers as one of the leading factors in the emergence of the fact of giftedness. Environmental concepts emerge as social structures in Tannenbaum's (1983) Psychosocial Classifications Theory. Society or the environment is one of the important factors in the emergence of giftedness (Tannenbaum, 1983). Environment takes place as the "Environmental Catalysts" in Gagne's (2004) DGMT. Environmental catalysts have been categorized as environment, people, facilities, events. Environmental catalysts are one of the important factors which have an effect on the transformation of giftedness into the competencies (Gagne, 2004). In Tannenbaum's (2003) Sea Star Model of Giftedness it is argued that, the environmental factors play a role as formative and supportive in the emergence of giftedness (Tannenbaum, 2003). In the Successful Intelligent Theory (Stenberg, 1997) giftedness is not only fitting into the environment but also choosing the proper environment and changing it. From this point "environment" is one of the key concepts of the emergence of the facts of giftedness in this theory (Stenberg, 1997). In theory preservice primary school teachers created the usage of the concept environment is given by the direct quotations as follows:



*"In Turkey the studies about the gifted education are insufficient in terms of substructure (Teacher 26)". "Environmental factors like the condition of the family, school effects the development of ability. (Teacher 25)". "It is important for the individuals to have giftedness but we must create proper environments to transform giftedness to ability. If we don't, we can't avoid brain migration (Teacher 24). "If the child grows up in an environment surrounded with quality stimulant the development of capabilities will be easier (Teacher 21)".*

### **Opinions of the Preservice Primary School Teachers on the Theory of Giftedness**

Except for these the preservice teachers revealed views on the giftedness theories regarding the giftedness situation in their country. The opinions of the preservice primary school teacher's on the appropriateness of giftedness regarding their country's facts are as follows;

*"Gagne is right giftedness and talent are different. Gagne's catalysts concepts should be involved, Tannenbaum is not right to have giftedness in adults but having the luck factor is appropriate for me, Renzulli's ratio 15-20% is wrong in my opinion" (Preservice Teacher 2)*

*The motivation Renzulli's is important, motivation is an essential factor for the development of talent" (Preservice Teacher 5)*

*I agree with Stenberg, determining students' giftedness with math talent in our country is wrong" (Preservice Teacher 6)*

*"I like Gagne's theory, however when I look at the education system in our country it is not so easy to apply. A strong substructure is necessary for the implementation of this theory. If we look at Tannenbaum's point of view quota talents is what our country needs. Quality public officials are need in our country" (Preservice Teacher 10)*

*"In Turkey giftedness is perceived as a way to earn money and practical thinking" (Preservice Teacher 18)*

*Socio-economic situation is affecting rural areas, chance becomes important." (Preservice Teacher 11)*

*In our country you can be intelligent but if someone does not help, you will disappear" (Preservice Teacher 27)*

*There is a lack of appropriate substructure in Turkey, mostly the quota talent." (Preservice Teacher 29)*

*"In our culture, creative intelligence is given importance, such as Nasreddin Hodja" (Preservice Teacher 30)*

*"There are some shortcomings almost all of the giftedness theories. One theory completes the other theory" (Preservice Teacher 7)*

*The needs of the community cannot be displayed as a criterion to be gifted or not. The discovery of the great scientists has no relevance of the needs of the society " (Preservice Teacher 16)*

According to the opinions of the preservice primary school teachers, they indicated that due to the insufficient substructure of the education system in Turkey, the chance factor which takes place in Gagne's (2004) DMGT Model and Stenberg and Zhang's is effective in the emergence of giftedness. They also emphasized that quota talent class in Tannenbaum's (1983) Psychosocial Classification Theory was insufficient and poor quality in Turkey. They thought that the intelligent meant money or practical thinking in Turkey, so it can be said Stenberg's (1995) Successful Intelligent Theory has become appropriate for Turkey and Turkish society give some signs like a capitalist society. What's more culturally which type of intelligence has an emphasis in Turkey were presented with the cultural personality (e.g. Nasreddin Hodja). These findings have resemblances with Sak's study (2007).

### **Conclusion**

In this study, it has been asked to the preservice primary school teachers to redesign "theory of giftedness" for the country they live in. It has been requested that while creating their own theories, they should take into consideration the existing theories of giftedness. At the sum of the study, it was determined that theory of giftedness which preservice primary school teachers were impressed most are as follows, Gagne's (2004) DGMT (f=20), Zhang and Stenberg's (1995) Implicit Pentagonal Theory of Giftedness (f=14), Tannenbaum's (1983) Psychosocial Classification Theory (f=13), Renzulli's (1978) Three Ring Theory (f=11), Gardner' (1983) Multiple Intelligent Theory (f=7), Stenberg's (1997) Successful Intelligent Theory (f=7), Tannenbaum's (1983) Sea Star Model (f=5), Ziegler and Heller's (2000) Meta-theoretical Perspective (f=3), Simonton' (2005) Emergenic-Epigenetic Model (f=2). It is known that Gagne's (2009) DGMT is highly accepted particularly in the Australian and Asian communities (Lassig, 2009). It is stated by the preservice primary school teachers that this theory is more appropriate to explain the facts of giftedness

in Turkey. "Giftedness is a natural ability that requires the appropriate environment and supporting conditions to develop fully into a talent" (Lassig, 2009).

Preservice primary school teachers had also used some concepts of existing giftedness theories in their own redesigned theories. The concepts commonly used by preservice primary schoolteachers in the giftedness theory that will be created for Turkey are as follows; chance ( $f = 22$ ), creativity / productivity ( $f = 20$ ), social value/value ( $f = 19$ ), environment ( $f=16$ ). Except this, they used concepts such as motivation, rarity, catalysts, individual life/experience, socio-economic status, genetics/heredity, and mental capacity, the multidimensionality of intelligence, faith, performance, family, time, and academic achievement. Although the concept of chance is mentioned in few of the giftedness theories, it is the most commonly used concept in teachers' theory of giftedness. This situation is very thought-provoking. In addition preservice primary school teachers stated that due to the education system and infrastructure; a person's support is needed in order to be successful in any area. Most administrators and teachers who are working in Science and Art Centers which were established to provide educational support to gifted students stated that Centers' physical situations and equipment are insufficient (Ozer-Keskin, Keskin-Samanci, & Aydin, 2013). It is very important for a gifted student to come across with a good teacher in the nurturing of the talent (Gross, 2005). In Turkey, there is a lack of quality teachers who work in the centers and institutions to support gifted students is a big problem (Sak, 2011), so it is not surprising to involve the luck factor for the students to become gifted individuals.

The roles of the primary school teachers in the identification and education process of the gifted students are crucial. For that reason more attention should be given to the education of preservice primary school teacher education who will work on giftedness field. Because of influence of individuals' learning behavior, determining of the implicit theories of preservice primary school teachers is becoming more and more important. In this study implicit theories of preservice teachers have been examined. Preservice teachers compared the cases in their own countries with the theories of giftedness and have brought interpretations on the correspondence and compatibility between the country's facts and the theories. Teacher candidates stated that Sternberg's (1997) theory of successful intelligence is an appropriate description in relation with the capitalist society's giftedness perception. They put forward the importance of practical intelligence, and stated that concept of chance which took place in some of the theories came to the prominence in Turkey due to the lack of infrastructure in the education system. It is clear that chance, productivity, social values/values, and environment are the basic concepts of the theory of giftedness created by the preservice teachers depending on their experiences, observations and interpretations. This point of view depends on the perceptions formed by preservice teachers with their paradigmatic view. The teachers are supposed to create a perception about the development giftedness in parallel with this result, with attitude, perception, approach and behavior (Blackwell, Trzesniewski, & Dweck, 2007; Lassig, 2009). It is likely to be a relationship between perceptions of preservice primary schoolteachers towards the gifted education and the perceptions of primary school teachers. The fact that primary school teachers' attitudes toward to the gifted education is around the neutral level can be the result of the lack of a strict politic stance towards gifted education in Turkey. Talent development-oriented education should be instructed in undergraduate education which accepts differences is highly important. (Tortop, 2014).

In this study, sample size was low due to elective courses related to gifted education- opened by limited number of universities in Turkey. However, it was though that since the research has a nature of qualitative approach, information with rich results that shed light to the research was obtained (Creswell, 2013). For further research it can be suggested to the teachers to create their own implicit theories of giftedness and the results can be investigated according to the age, branch, and seniority factors.

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