



Comparative Examination of the Education of Highly Gifted Individuals in Czechia and Türkiye.

BY

Dr.Bilal AKBEY^{1*}, Yasin UZUNİSMAIL², Hidayet KAYMAZ³, Yılmaz YÜKSEKKAYA⁴

¹Ministry of Education, Elazığ, <https://orcid.org/0000-0002-5197-1021>

²Ministry of Education, Trabzon, <http://orcid.org/0009-0007-0577-1567>

³Ministry of Education, Elazığ, <https://orcid.org/0009-0007-9167-1369>

⁴Ministry of Education, Elazığ, <http://orcid.org/0009-0008-5446-7278>



Article History

Received: 25/08/2023

Accepted: 29/08/2023

Published: 31/08/2023

Vol – 1 Issue – 3

PP: - 41- 47

Abstract

Highly gifted individuals constitute a very small portion of the world's population. These individuals receiving a good education will both contribute to their own countries and play an important role in the development of world countries. In our research, the results obtained by highly gifted individuals from Türkiye and Czechia in international exams such as TIMSS and PISA have been examined. Türkiye participated in the PISA studies for the first time in 2003; and in the TIMSS studies in 1999. On the other hand, Czechia participated in the PISA studies for the first time in 2000; and in the TIMSS studies in 1999. In our study, where both horizontal and descriptive comparative education approaches are used, comparative reviews have been conducted on the historical development process in the education of highly gifted individuals, identification, educational practices, teacher selection, and the training of teachers. Czechia starts the identification process for highly gifted individuals earlier than Türkiye. Czechia generally provides education to highly gifted individuals in special classes within schools; Türkiye prefers to offer after-school support education. Czechia began the education of highly gifted individuals in the 1960s. The implemented education program continues by being updated in accordance with the requirements of the age. Türkiye began educating gifted individuals in 1929 but has been faced issues in maintaining continuity. Efforts are being made to address these issues and ensure continuity through various changes.

Keywords: Czechia, Türkiye, Gifted Education, Comparative Education.

Introduction

In today's world, where science and technology are advancing at a dizzying pace, various strategies and factors are required to compete with rivals and remain standing. At the center of these factors are highly gifted individuals (Esen, 2011). Many definitions have been made in the field for highly gifted individuals. At the 1st Special Education Congress, highly gifted individuals are defined as those who demonstrate high performance compared to their peers in terms of general and/or special talents, as identified by experts in the field (MEB, 1991). In 1978, the United States Office of Education (USOE) put forth a comprehensive definition of giftedness as a result of its conducted studies: "The term gifted children includes children and youth who are recognized for their potential, proven or possessed talents at the preschool, primary or high school level. These children are those with intellectual, creative, and specific academic abilities or

leadership skills, highly talented in areas such as visual arts (Cited in Bildiren, 2013).

From the moment societies began to form on Earth, gifted individuals have attracted the attention of the communities they lived in. States and societies have wanted to benefit from these gifted individuals in the fields of science, art, and sports to shape their futures. Especially the United States' beginning to pay more attention to the schools that gifted individuals attend in the fields of mathematics and science attend has also spurred its competitors into action. The education of gifted individuals, studies on intelligence, and especially, for the educational needs of highly intelligent children, programs and different strategies have started to be developed (Clark, 2015). In developed countries such as the United States, Russia, the United Kingdom, France, Germany, Israel, and South Korea, educational studies that will reveal and develop the gifted individuals' innate intelligence and their innate

potential have been accelerated. Because the education of gifted individuals in accordance with their potential will provide a high level of development and benefit to the society. This will be possible if these individuals receive training appropriate to their abilities (Subotnik, Kubišius, & Worrell, 2011).

A very small part of societies consists of gifted individuals. The utilization of these individuals' potentials for the benefit of society holds significant importance. Czechia; Located in Central Europe, has a population of 9.5 million. Czechia, with a negative population growth rate, is decreasing in population every passing year. Czechia is a poor country in terms of natural resources. After the collapse of communism, Czechia has set education as the primary goal in order to make progress, be successful, and develop by using its limited opportunities. The education of gifted individuals has been approached with sensitivity. Although in the 1960s the education of gifted individuals in certain fields such as mathematics and sports was of interest, attention was drawn to this area in the 1990s when experts, especially psychologists, emphasized that gifted talent was important in the educational process (Mirascieva and Koceva, 2019). According to the most recent TIMSS report published in 2019 from the International Mathematics and Science Trends study, Czechia has maintained its position among the successful countries above the TIMSS scale average (International Association for the Evaluation of Educational Achievement, 2016), and in 2019, in the International Student Assessment (PISA), it has found itself above the OECD data in mathematics, science, and reading comprehension. In the field of mathematics, while the OECD average is 489, Czechia scored 499; in science, while the OECD average is 489, Czechia scored 499; and in reading and comprehension, while the OECD average is 487, Czechia scored 490 (OECD, 2019). These results are the outcome of Czechia's efforts in education. The researches conducted show that there is a positive correlation between a country's level of education and its economic development, and that education plays a key role in the advancement of society (Levent and Yazıcı, 2014).

With the vision of the 2023 the century of Türkiye, Türkiye aims to achieve breakthroughs and a major transformation in every field, and in the field of education, it wants to reach its set objectives. For this, it is thought that an education centered on the individual will be beneficial for the country. Türkiye has been experiencing serious problems in the education of gifted individuals from past to present and is trying to eliminate its deficiencies. Although substantial studies have been carried out for the education of gifted individuals in Türkiye, the desired results have not been achieved yet. (Çiğil, 2018). For this reason, an educational strategy and implementation guide for the education of gifted individuals has been prepared by the Ministry of National Education (MEB), but it has not yet been implemented.

The aim of this research is to comparatively examine the education provided to gifted individuals in Czechia, as well as the adjustments made by Czechia after communism and its updated educational policies according to the conditions of the

time, in relation to the education of gifted individuals in Türkiye. Therefore, it is believed that this study can provide different perspectives on the educational policies and practices developed for the education of gifted individuals who will produce and develop science and technology.

The Research Problem

In this study, the comparison of the education of gifted individuals in Türkiye and Czechia in terms of certain variables has been presented as the problem situation.

Research Sub-Problems

Depending on the problem situation of the research, answers have been sought for the sub-problems given below.

1. How is the historical development of the education of gifted individuals in Türkiye and Czechia?
2. What are the objectives in the education of gifted individuals in Türkiye and Czechia?
3. How are the identification of gifted individuals carried out in Türkiye and Czechia?
4. How is the selection and training of teachers responsible for the education of gifted individuals in Türkiye and Czechia?
5. What are the educational practices implemented for gifted individuals in Türkiye and Czechia?

The Method

In our study, the education systems of gifted individuals in Czechia and Türkiye have been examined comparatively in terms of different variables, by using horizontal approach and descriptive approach together. Comparative education is a discipline that helps to define the similarities and differences of two or more education systems in different cultures and different countries, explains the phenomena that seem similar, and offers valuable suggestions about the ways of educating people (Türkoğlu, 1985). Comparative education is a field that examines national education systems by considering political, social, and cultural factors and carries the meaning of primary and secondary education (UNESCO, 1955).

Descriptive survey research is conducted on large groups, where the views and attitudes of individuals in the group related to a phenomenon or event are collected, and attempts are made to describe these phenomena and events (Karakaya, 2012).

Findings and Interpretations

Czechia Gifted Education

Historical Development

The education of gifted individuals does not have a long history in Czechia. In Czechoslovakia, under the communist regime, giftedness was seen as a discriminatory situation. Although special classes were created in the fields of language, mathematics, and sports in the 1960s, nothing special was done for the education of gifted individuals. In the 1990s, attention was drawn to this area when experts, especially psychologists, emphasized the importance of giftedness in the education process (Mirascieva & Koceva, 2019). The first document that mentions the education of

gifted people in Czechia is the "The White Book" published in 2000. This book contains a passage emphasizing the education of gifted individuals within the national program for the development of education (Simonik, 2010). Since 2004, the education program framework has determined the role of the school in the education of gifted individuals, and the education of the gifted has been officially recognized with the school law no. 561. Today, the education of the gifted is defined as the education of students who need special education. The national curriculum gives priority to identifying and developing the needs of gifted individuals in order to be able to compete with other countries in the education of gifted individuals.

The Objectives of the Gifted Education

Nowadays, the education of gifted individuals is a vibrant topic that is emphasized greatly. For this reason, gifted individuals need to receive education in line with their needs. The changes in the content of the education prepared for these individuals are related to the qualitative change in curriculum contents (Smith, 2006). Czechia Ministry of Education's main aim with the curriculum change is to provide gifted individuals with critical thinking, problem-solving, and a creative point of view (Machu and Malek, 2015).

In Czechia, there is a lot of uncertainty in creating the necessary conditions to meet the educational needs of gifted individuals. It is known that the Czech Ministry of Education has conducted satisfactory studies on this subject.

Identification Process of Gifted Individuals

Identifying gifted individuals may not always be easy. In a country the size of Czechia, gifted individuals represent only 3% of the population. This corresponds to nearly 27,000 individuals. Czechia begins to identify gifted individuals in kindergarten. NTC learning is used for the identification of gifted individuals, and gifted individuals are identified through Mensa ČR. Activities are conducted according to their interests to try to develop individuals' potentials. In Czechia, the TIM3-5 test has been developed at the Center for the Development of Gifted Children for the identification of gifted individuals in primary school. This test was developed to measure the mathematical abilities of children in the 3rd and 5th grades of primary education. Additionally, Czechia uses the online identification system Invenio for the identification of gifted individuals. This system was created to scan the abilities of individuals in the 1st and 5th grades of primary school in the most modern way (Matochova, 2020). This system is used in the form of a gamified test. The results obtained are compared with the results of similar methods used abroad and feedback is provided to the authorities.

Teacher Selection and Training

As a profession, teaching is in a respected position in countries within the European Union. European Union countries act very meticulously in the training of teachers. After the collapse of communism, the Czechia did not have a trained teaching staff capable of educating highly talented individuals; experts in their field, creative, with high teaching

skills, and easily adaptable to change. In Czechia, one of the biggest problems experienced in the education of highly talented individuals was in the selection and training of teachers. In Czechia, after accepting the idea that the education of highly talented individuals bears importance for the future, the identification of these individuals has started; but even if teachers exerted much effort to educate these children in schools, they stated that they themselves were insufficient (Reid and Boettger, 2015). Teachers who have not received any training on working with highly talented individuals, who cannot approach these individuals with a suitable methodology, and who cannot use appropriate materials to contribute to the development of highly talented individuals, constitute the biggest deficiency of today's Czechia. For the solution of this problem, the Czechia Ministry of Education has imposed the condition that highly talented children in regular schools in Czechia can be educated by regular teachers only if these teachers have taken courses and conducted studies in special education (Mirascieva and Koceva, 2019).

Educational Practices

The Czechia Ministry of Education started providing education to highly talented individuals in the early 1990s, following the collapse of communist Czechoslovakia. Czechia, which does not have a long history regarding the education of gifted individuals, is still trying to cope with significant challenges. Not having previously established any educational program in the law or in educational policies for the education of highly talented individuals has caused the Czechia Ministry of Education to currently work on this matter.

According to the Czech education law, gifted individuals can:

- 1-Attend regular schools.
- 2-Attend special classes within regular schools.
- 3-Attend regular classes with some subjects in special classes.
- 4-Attend a specialized school (Mirascieva and Koceva, 2019).

In these schools and classrooms, individuals who receive an enriched content education establish interdisciplinary connections, develop advanced learning skills with different learning strategies, and gain research competence. Additionally, after school and during summer holidays, participation in extracurricular activities and scientific projects is provided to strengthen the motivation of these individuals. Summer schools, summer camps, and science festivals are provided for them to have fun and educational times.

Education for Gifted Individuals in Türkiye Historical Development

In Turkish history, the period where highly talented individuals were evaluated in the best way is the Enderun Schools during the Ottoman Empire. The education system in Enderun aimed not just to raise the student as a scientist, artist, or soldier, but to raise them as a versatile and perfect

individual (Sencer et al., 2010). It is observed that since the proclamation of the Republic, importance has been given to the education of highly talented individuals. From 1929 to today, many studies have been conducted related to the education of highly talented individuals. These are:

-In 1929, with the introduction of the 'Law on Students to be Sent to Foreign Countries,' students who were superior in intelligence and character and who possessed the required qualifications were selected by the Ministry of National Education through competition and were sent abroad.

-In 1956, with the enacted law, opportunities were provided for highly talented children in painting, music, and plastic arts to receive education both domestically and abroad.

-In 1964, the First Science High School was opened in Ankara, and gifted individuals in mathematics and science fields began to receive specialized education in this school.

-In 1980, the General Directorate of Special Education was established. In the 'Law for Children in Need of Special Education,' principles regarding the upbringing of children in need of special education were determined.

-In 1993, the 'Private İnanç High School,' a special educational institution where highly talented children with limited financial means would study, was opened.

-In 1995, the first science and art center in Türkiye, Yasemin Karakaya Science and Art Center (BİLSEM), was opened in Ankara.

-In 1997, with the Decree-Law on Special Education, services to be provided directly and indirectly to individuals who need special education, as well as the schools, institutions, and programs that will provide these services, were regulated.

-In 2001, The Science and Art Centers Directive came into effect.

-In 2003, Social Sciences high schools were opened.

-In 2005, Sports high schools were opened.

-In 2006, in schools, the opportunity was provided to 'supply special tools and educational materials for highly talented students, and to open a support education room for special education' (TBMM, 2012:166)."

These efforts show that the Republic of Türkiye approaches the education of highly talented individuals with sensitivity. Consequently, the Special Talented Individuals Strategy and Implementation Plan (2013-2017) was prepared, but it has not yet been put into effect (MEB, 2013).

Objectives of Gifted Education

In Türkiye, special curricula have been prepared to assess the potential of individuals who need special education to meet their needs. Within the Directorate General of Special Education and Guidance Services, the units established for the purpose of educating gifted individuals in the fields of science and art are called Science and Art Centers (BİLSEM). The Ministry of National Education, in the directive of the Science

and Art Centers, listed the objectives in the education of gifted individuals as follows: (Bodur and Er, 2019)

-Developing the awareness of taking responsibility while respecting the rights of others,

-Enhancing leadership, creative, and productive thinking abilities in a manner that contributes to national development with a national and societal understanding,

-In the process of developing the talent area/areas, addressing the social and emotional development areas within integrity,

-Their talents and creativity being noticed at an early age and developed, and using them at the highest level,

- Growing up as individuals who combine aesthetic values with scientific thought and behaviors, productive, problem-solving, self-realized,

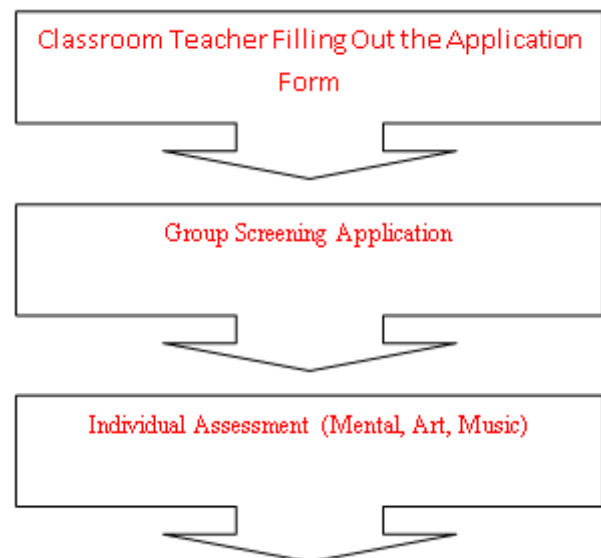
- Being able to propose new ideas for the needs in the fields of work, being able to develop technical inventions and contemporary tools,"

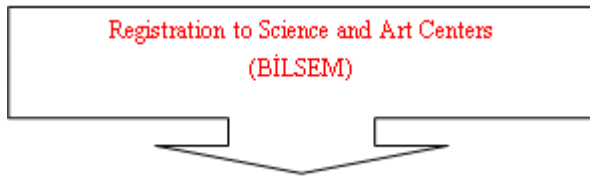
- Gaining scientific work discipline in line with their special talents, interdisciplinary thinking, solving problems, or implementing projects to meet specified needs."

Identification Process

In Türkiye, meticulous work is being conducted on the selection of gifted individuals and the education of these individuals. Ensuring that gifted individuals possess 21st-century skills and producing projects aimed at meeting needs in line with their special talents is among the objectives of Science and Art Centers (BİLSEM) (MEB, 2019). Within this scope, student identification is conducted to determine the students to be educated.

Figure 1: Student Identification Process for Science and Art Centers (BİLSEM)





Student identification is conducted in three areas. These areas are the general mental ability area, the art talent area, and the music talent area. Students to be nominated can apply to two of these three areas at the same time. For this, as seen in Figure 1, the application form located in the e-school Management Information System is filled out by the classroom teachers of 1st, 2nd, and 3rd-grade students at their school. Subsequently, all students for whom an observation form is filled are taken to the group screening application. Students who are successful in the group screening application are taken to individual assessment according to the talent area or areas they applied for. Those who pass the individual assessment can register for the school.

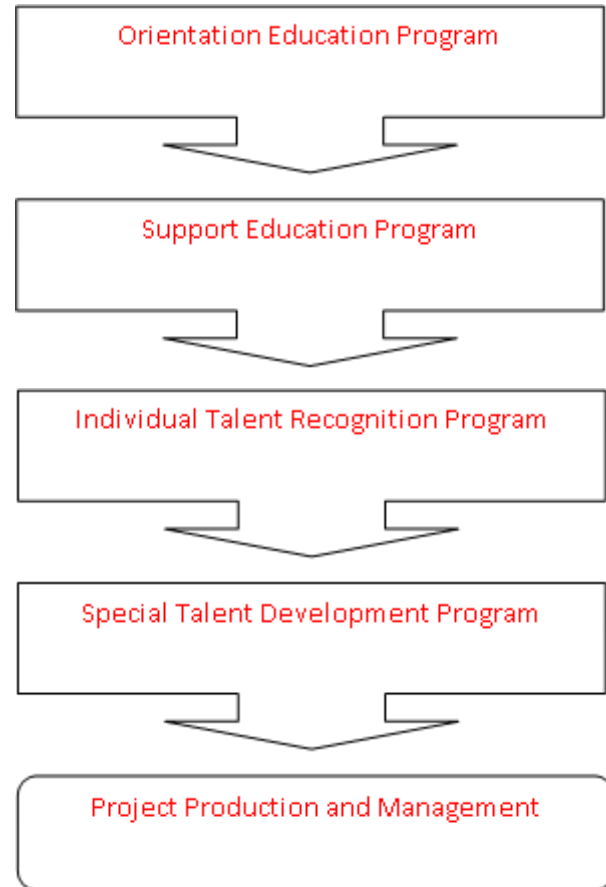
Teacher Selection and Training

In Türkiye, Science and Art Centers (BİLSEM) hold an important place in the education of gifted individuals. There are science and art centers in almost every province of Türkiye, and new ones are being opened. Teachers who have served for 3 years at the Ministry of National Education can apply to work in Science and Art Centers (BİLSEM). In the 1st phase of the application, teachers are required to fill out the teacher evaluation criteria form. In this form, teachers receive points based on criteria such as their level of education, national and international projects they have conducted, artistic activities, publications (articles, presentations, etc.). They are ranked according to the points they receive from this evaluation, and then they are taken to the 2nd phase, which is the oral interview, starting from the highest score. Successful teachers are assigned to Science and Art Centers (BİLSEM) (MEB, 2019).

Educational Practices

In Türkiye, many programs for gifted students have been tried, and like other examples in the world, the inclusive education model has been deemed appropriate and decided to be implemented. Since the early 1990s, with the opening of Science and Art Centers (BİLSEM), gifted individuals have been diagnosed and education has started in these schools. In these schools, these individuals have been provided education with an enriched curriculum. Currently, in every province and with an increasing number, many gifted individuals are receiving education in Science and Art Centers (BİLSEM). The education programs these individuals receive are as follows:

Figure 2: Education Program Implemented in Science and Art Centers (BİLSEM)



Students registered in Science and Art Centers (BİLSEM) are enrolled in the education programs below (MEB, 2015:8);

- Adaptation; at the end of this education program, they are directed to the special talent development education program in the field they are talented in.
- Support education; to enable enrichment, differentiation, and acceleration, they are taken to training on themes/workshops, preparing projects individually or in groups, problem-solving techniques, scientific research techniques, entrepreneurship, critical thinking, creative thinking, decision-making, etc.
- Realizing individual talents; programs aimed at emphasizing their creativity and disciplines related to individual differences are prepared and implemented to make students realize the individual talents they possess.
- Developing special talents; in this process, taking into account the disciplines and interdisciplinary relationships, students are provided with in-depth or advanced knowledge, skills, and behaviors in any discipline.
- Project production/management; their studies in line with the projects they will choose without any restriction on topic selection, the solution applications they develop, and their learning during this process are taken as the basis.

In Türkiye, in Science and Art Centers (BİLSEM), these trainings are given to gifted individuals as after-school support education on certain days of the week.

Table 1: Comparison of Educational Practices in Czechia and Türkiye

Educational Practices	Czechia	Türkiye
Inclusive Education	✓	✓
Separate Education		
Private School	✓	
Special Class	✓	
After-School Special Group		✓
Acceleration		
Grade Skipping	✓ *	✓
Early School Entry	✓ *	✓
Taking Courses from Higher Grades	✓ *	
Enrichment		
Deep Learning	✓	✓
Supportive Education	✓	✓
Elective Course		✓

(*Only extraordinarily gifted students can benefit from these opportunities.)

Conclusion and Discussion

Both Czechia and Türkiye are two countries that approach the education of gifted individuals with sensitivity while arranging their educational conditions according to the requirements of the evolving and changing world order. The aim of both countries in the education of gifted individuals is to increase their creativity, ensure high-level thinking, enhance their problem-solving abilities, and enable them to acquire effective communication skills in collaboration.

In both countries, the identification process consists of two stages: "screening and selection". However, in the Czechia, the identification process starts from kindergarten and continues until the 5th grade of primary school; in Türkiye, it is only done up to the 1st, 2nd, and 3rd grades of primary school. In Türkiye, tests aiming to measure general ability are used in the screening phase and individual intelligence tests are used in the selection phase, whereas in Czechia, a kind of gamified test form is used for identification.

In teacher selection, noticeable differences are observed between the two countries. Türkiye is applying certain criteria while selecting teachers who will provide the education of gifted individuals. The education levels of teachers, the articles they have published, the national and international

projects they have participated in, and the art activities and seminars they have taken play an important role in this selection. In Czechia, however, very big problems are being experienced in the selection of teachers. It is known that Czechia has no criteria on this matter and introduced a certification requirement in 2007 for teachers who will educate gifted individuals in schools.

In educational practices, inclusive education model is implemented in both countries. In Czechia, enriched curriculum is applied in special classes in regular schools; in Türkiye, gifted students participate in formal education with other students and receive supplementary education in Science and Art Centers (BİLSEM) after school.

In Türkiye, a "Special Talented Individuals Strategy and Implementation Plan" has been prepared but has not yet come into effect. In Czechia, such a prepared strategy plan does not exist. Türkiye started the education of gifted individuals in 1929, whereas Czechia started the education of gifted individuals in 1993.

Although Türkiye's education for gifted individuals is much more planned than Czechia's in terms of historical process, student diagnosis, teacher selection, and educational practice, Czechia's higher ranking than Türkiye in international exams like TIMSS and PISA presents a situation that requires in-depth investigation.

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