

Veronika LISKUNÉ VATHY,  
Adrián NAGY

*University of Debrecen, Faculty of Economics, Debrecen, Hungary*

# THE SIGNIFICANCE OF GIFTED AND TALENTED PROGRAMMES IN CONTEMPORARY HIGHER EDUCATION

Review  
Article

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## Abstract

*The role of talent management is becoming more and more important not only in Hungary, but also in Europe and in the world. This is also shown by the literature on the subject and by the developed infrastructure. The identification and care of talents begins in childhood and can be continued in tertiary education. In Hungary there are more and more talent care programs in our tertiary education, which enable students to work on their talents. We need to encourage talent management so that hidden talents can also become visible. There is a necessity in higher education for programs led by mentors who can identify and take care of the promising talents so that after finishing their education these students can fit in the labour market.*

## INTRODUCTION

Gifted and talented education plays a key role in social progress. The development of various academic subjects impacts our environment and all the opportunities provided by our environment. This becomes evident after children become adults, in their competitive qualities and commitment to work. In the 21st century, the expectations and demands of the labour market are developing dynamically. The preparation for these changes is achieved through teaching activities combined with gifted and talented education programs provided for the students in higher education institutions. Therefore, it is important to monitor and improve the quality of education as well as the operation of gifted and talented education programs. Endre Czeizel's thoughts are of defining relevance in this respect: "[...] in the 19th century, important characters of the Reform Age believed that one's country makes people great. However, according to the more realistic idea promoted in the second half of the 20th century, this relation is just the opposite: it is the people, and especially the exceptional talents and geniuses, that *can make one's country great. Therefore, these people deserve increased protection and acknowledgement*" (Czeizel & Páskuné Kiss, 2015).

In 2014, INSEAD, the Human Capital Leadership Institute, and Adecco conducted a survey in 103 countries aimed at examining to what extent various countries developed and attracted talented people and how they managed to keep them at home (Internet 1). The survey covered 96.7% of the global GDP and 86.3% of the world's population. In the course of the survey, the comparisons were carried out on the basis of the GTCI (Global Talent Competitiveness Index), the result of which was that competitiveness and innovation had a major impact on the global economy. The survey also found that there were gifted and talented education programs of outstanding quality in Switzerland, Singapore and Denmark. Hungary was in the 40<sup>th</sup> position in terms of the country's ability to retain and attract talents. The survey also addressed the extent of the contribution of gifted and talented education to GDP growth, and for this purpose it examined talented individuals who put their capabilities to use in businesses. Furthermore, the survey encompassed a detailed examination of the ability to attract talent, the development of talent, the follow-up activities related to talented individuals, the ability to express opinions publicly, the retention of talents as well as the examination of global knowledge. The survey showed that even though there are many new ideas in Hungary, they are not realized (Internet 1) due to inadequate gifted and talented education. This survey leads us

to conclude that the gifted and talented education in our country plays a significant role in the development of the economy and the achievement of competitive development.

Higher education institutions in Hungary provide gifted students with a variety of programs which are suitable for their area of interest and research. These programs mostly have mentors who are committed to identifying and developing the capabilities of their participants. Part of their mission is to facilitate students' development to the fullest potential, which includes theoretical education and support in terms of the tools or equipment needed for research. The primary aim of gifted and talented education programs is to identify, manage and develop the gifted students among the general population participating in higher education, and their ultimate aim is to help these gifted students realize their full potential and become talents.

## THE AIMS OF GIFTED AND TALENTED EDUCATION

According to Barbara Feger (1997), there are four aims of gifted and talented education: supporting the strong side of a very gifted child; compensating for the (talent-related) weak side of a gifted child; "prevention", "the improvement of the atmosphere", "occupational therapy"; while the last aim is to support such areas that are not connected to the child's talent. A different classification of the aims is offered by Éva Gyarmathy (2007), who identified six categories. The first category is personality development: the development of self-knowledge, communication skills, cooperation, autonomous learning, etc. The second is the development of the cognitive skills: problem-solving capabilities and creativity, the practice of research and creative work. The third is the development in the specific area, whether it is a academic subject or an artistic activity. The fourth is the supplementary knowledge: mother tongue and foreign languages, computer and enterprising skills. The fifth is preparation for more advanced studies: helping the student enter a higher level of the educational programme. Finally, the sixth aim is different: the application of elements not listed above or a mixed program.

Gifted and talented interdisciplinary education programs recently started to emerge in higher education. Ferenc Mező (2014) is of the opinion that the aim of such programs is to involve participants in more or less independent studies/research projects which rely on theoretical/practical knowledge of not only a single subject but two or even more. Furthermore, these programs set two aims: the direct aim: the exploration of a specific topic through

interdisciplinary learning/research; the indirect aim: “providing an enriching type of gifted and talented education programme; broadening horizons, providing an opportunity for synthesizing the knowledge acquired through the study of various subjects; creating a holistic system of knowledge; facilitating the creation of new research findings through provoking remote associations between various subjects; in the case of research groups, the development of social competences (including leadership skills, communication skills, the ability to handle conflicts etc.); expanding and maintaining a professional network; encouraging/teaching academic creativity.”

With respect to the definition of talent, literature has developed several approaches throughout the past centuries. The process of making the definition more concrete is hindered by the lack of consensus concerning what aspects and factors the concept should cover. I would highlight the definitions given by some well-recognized specialists in the field: According to István Harsányi (1994): “*What we mean by talent is the ability building upon some capabilities people are born with, and then develop through practice and focused development, with the use of which human activities can create results far exceeding average accomplishments.*”

Commitment to one’s home country appears as a key element in the definition of gifted and talented education. Sándor Imre, whose approach is the closest to my own opinion stated: “*The most important thing is education that occurs within the nation and has a feedback effect on the nation. Further “[i]t is not geniuses that we need to work with but those who generally possess the ability to work. We must precisely define the concept of talent, as far as possible, and make school education suitable for enabling children’s abilities to develop to their full potential.*” And finally, “*it is the family who also exercises a major impact on the development of talents; the family may facilitate but also hinder the development of individual talent. The family atmosphere, the parents’ ambition, their level of education, and financial position play an important role.*”

In the case of gifted young people, we must take into consideration the fact that they spend a significant amount of time at school among their peers who also influence their talent. The impact of peers and of the school was also examined by Sándor Imre, who formulated the following opinion: “*Talent is individual, while school work is mass work.*” “*Schools must always strive to ensure that all students achieve a certain degree of development. Therefore, it is a clear consequence of school education that it balances out the requirements in a downward direction, which makes it an unsuitable location for the unfolding of various talents*” (Martinkó, 2006). When defining talent, we must consider the components of talent models, which

makes it easier to create and interpretate the concept.

## A REVIEW OF TALENT MODELS

After defining the concept of talent, it is important to review the most important talent models. Among talent models, Renzulli’s three-ring concept model, drawn up in 1978, is considered to be an underlying one; according to this model the emergence of talent depends on three main factors. These are above average ability, task commitment, and creativity. Later, this model was supplemented by Mönks (1992) by the triangle representing the social environments of family, school and peer groups. This model served as the foundation for Endre Czeizel’s model consisting of 2\*4+1 factors. The Figure 1 shows what factors were added by Czeizel to the model, which of them are factors that are given for an individual and which are external effects. Innate factors become capabilities subjected to external factors. The first major influence on the development of children is family, later joined by the institutional environment of kindergarten, peer groups and society (Czeizel& Páskuné Kiss, 2015). Exceptional intellectual achievements are only possible under particular conditions including innate gifts and favourable external influences. The extent of the gifts a person is born with can be determined. This accounts for 50 to 67% of the realization of general intellectual capabilities, while the effects of the environment account for the remaining 33 to 40%. Hereditary characteristics greatly determine the development of all special intellectual capabilities. Being musically gifted and having absolute hearing belong 100% to the category of hereditary characteristics. Having a gift for mathematics and poetry are only 90% hereditary, while the rest of the characteristics are innate but can be developed or suppressed. Based on the examination of motivation, Czeizel came to the conclusion that emotional intelligence (EQ), which is defined as part of motivation, is also a hereditary characteristic (Czeizel, 2000).

As far as talent in higher education is concerned, in my opinion, the external factors jointly determine the pace and the manner of the further development of talent. Students primarily find out from fellow students and friends (peer groups), as well as from instructors and channels of communication provided by the school about the existence and the operation of gifted and talented education programs. It is through these channels that they can find and then select the gifted and talented education programs best suited to their needs. Also, chance may contribute to the development of students’ talent in higher education; it is one of the external factors. It provides more opportunities for

gifted students to become real talents, i.e. to be capable of creating something new. It plays a significant role during an individual's studies. It includes, among other things, getting in contact with mentor teachers, who professionally nurture, support and assist students in the given area of research and transfer the knowledge they acquired to their mentees to the greatest possible extent.

According to Endre Czeizel, fundamentally, the characteristics of an individual are genetically based, and they can turn into capabilities due to external effects. The unique genetic composition of the individual is determined by a random-based factor; all humans have a different genetic code and the genetic composition can emerge in countless different forms. Depending on what external factors act upon this given genetic base, the characteristic may become a capability and talent or not. The end of the formation of the characteristic is, on average, at the beginning of the adult age. The "closing time" or completion of the feature cannot be determined concretely, since the transformation of the capabilities is a continuously changing process. *"Two important lessons of modern genetics follow. On the one hand, the characteristics we are born with are not our destiny, but rather the boundaries of our fairly broad possibilities. On the other hand, our performance (P) is always the net result of the interactions between our genetic characteristics (G) and our education (E) in the broadest sense of the word, from the point of view of external effects. One cannot exist without the other, and eventually it is their combined effect that appears in our lives. The basic law human genetics follows from the above, which is also valid in creatology (Czeizel & Páskuné Kiss, 2015):*

$$P = G \begin{array}{c} \leftarrow \\ \rightarrow \end{array} E$$

Endre Czeizel & Páskuné Kiss (2015) illustrated the path leading to the formation of a capability in a child in Figure 2. The emergence of the capabilities of the child is influenced by hereditary characteristics, the imitation of their parents' behaviour as well as education.

In terms of setting up a model suitable for identifying talents Francois Gagné was an outstanding researcher of the continuous development of the gifts that the individual is born with. In his model, the Differentiated Model of Giftedness and Talent (DMGT), he differentiated between innate abilities (giftedness/abilities) and concretely specified talent (talent/competencies). An important preoccupation for Gagné was to ensure that the abilities one is born with should be developed into talents which are useful to their society. According to his model, one ability could play an important role in the formation of several competences. Talent can then be defined as the

outstanding performance (belonging to the upper 10% of the population) manifested in a variety of areas. According to Gagné's definition, the background of an outstanding talent is a combination of systematically developed abilities; the results of the process are jointly influenced by environmental factors (e.g. family, school, other developing environments), chance, and intrapersonal characteristics (e.g. motivation, self-awareness) (Gagné, 2009).

With respect to models, it is important to mention Sternberg's WICS model of leadership in organizations as well as Ziegler's actiotope model of giftedness. Much attention must be devoted to reviewing the models in order to ensure that the gifted and talented program operates as effectively, efficiently and successfully as possible. Innovation, therefore, must pervade all programs for students in higher education.

There are different approaches to developing talents in gifted and talented education:

- Acceleration, "grade skipping" (in one academic year, gifted and talented students complete the curriculum of more than one year).
- Separation, segregation (gifted and talented students are selected and educated in separate schools). In both cases, those with outstanding performance are offered a chance to progress faster and to master a larger body of material.
- Enrichment, extension (gifted and talented children learn in normal school education, but they participate in a differentiated gifted and talented education program either in the school or in other institutions or centres). The principle behind this concept: "Gifted and talented students should learn different things and in a different way with a view to developing their creativity and their personality." (Herskovits&Geffert, 1994).

When applying these methods, the advantages and disadvantages arising from educating gifted and talented youths should be considered since individuals may respond differently to various methods (Gyarmathy, 2007).

### THE MAIN POINTS OF THE OPERATION OF GIFTED AND TALENTED EDUCATION PROGRAMMES

In connection with gifted and talented education programs it is necessary to determine the objectives of the given program, its eligible participants, the requirements they need to satisfy, as well as the main points of the operation of the programs. Bánfi et al. (2014) formulated the following criteria:

- Gifted and talented education systems have diverse but interrelated aims of operation:
- Identifying exceptionally gifted students (even as early as in secondary school programs).

- Supporting the development of gifted students by way of personal mentors.
- Providing assistance to gifted students in their academic progress, involving them in research projects while they are pursuing their studies.
- Helping them in exploring their interests and developing their talents also in areas beyond their narrow professional scope.
- Organizing special courses for exceptionally gifted students (not according to the standard system of university education).
- Organizing shared programs for participants in gifted and talented education; building communities.
- Establishing networks of talent between graduates and current students in the program.

In my opinion, these aims are all present in the existing gifted and talented education programs in higher education today, which means that students have numerous opportunities to develop their talents.

### CONCLUSIONS

Increasing emphasis is placed on the early identification, support and development of gifted students. Gifted and talented education receives more and more attention worldwide, including Hungary, since it significantly contributes to economic development. Separate research groups have been established for the process of innovation in a variety of disciplinary areas, with the aim of identifying the talents of the future generations. Giftedness manifests itself already in primary and secondary school, and it unfolds further in later age. Higher education institutions in Hungary operate high-quality programs of gifted and talented education, offering outstanding professional content and various opportunities for students.

Gifted and talented programmes in higher education provide opportunities for young talents to expand and diversify their knowledge in connection with their chosen specialization. Students in higher education can also participate in interdisciplinary programs for gifted and talented students. This is helpful to students who have not yet committed themselves to a certain specialization, enabling them to explore various subjects in order to find the one that best fitted them as well as a mentor who can assist them.

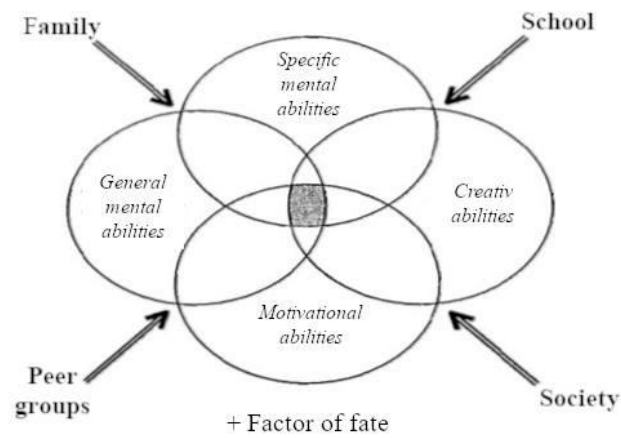
On the whole we can conclude that gifted and talented programs have a key importance in higher education. This is manifested after the completion of one's studies and also later, when searching for a job, since in certain disciplinary areas, and also in the production and service providing sector, there is an acute need for professionals with outstanding knowledge and commitment. As a result of the timely identification, by supporting and developing

giftedness and talent, the shortage of highly-trained labour force can be reduced.

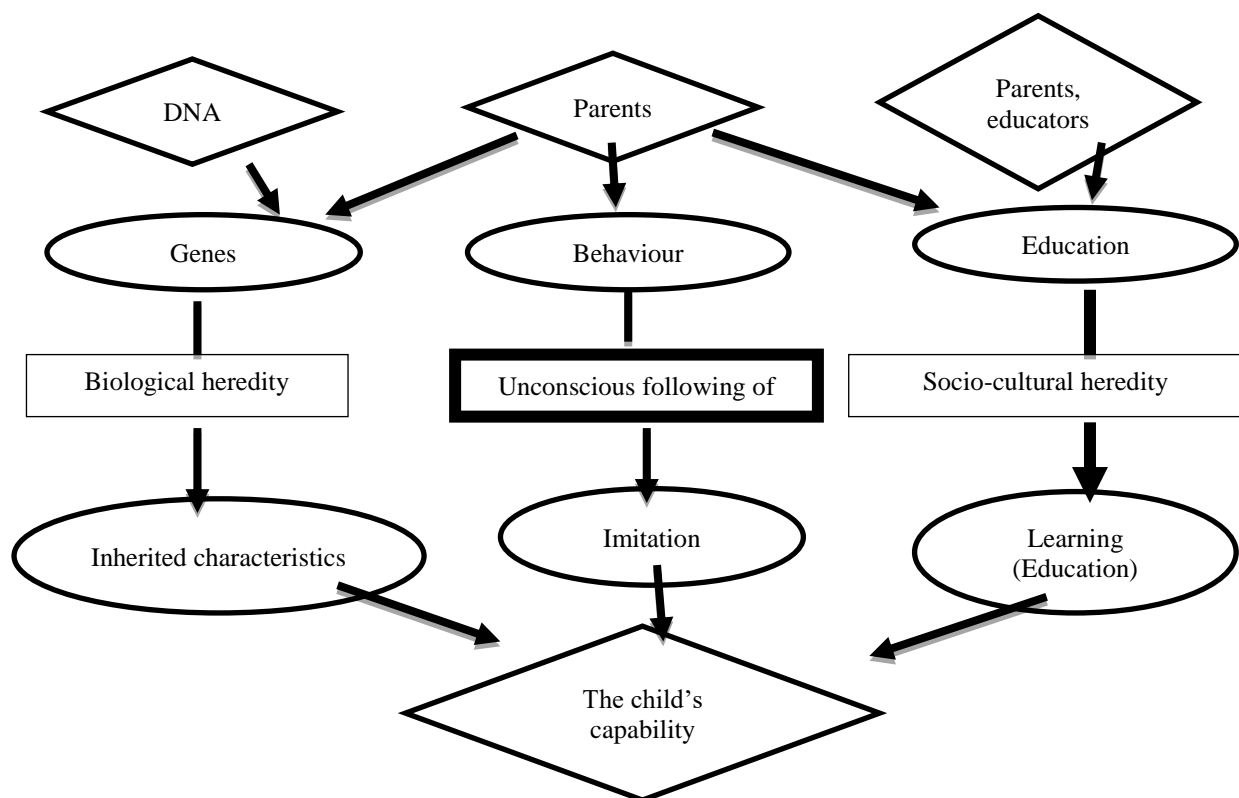
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**APPENDICES**



**Figure 1: The 2\*4+1 factor talent model**  
 Source: Czeizel Endre (1997): Sors és tehetség [Fate and Talent]



**Figure 2: The three roots of the child's "assimilation" of the parents**  
 Source: Czeizel & Páskuné Kiss (2015): The definitions and types of talent