FROM THE EXPERIENCE OF A TALENT MANAGEMENT – GOOD PRACTICE AT THE ÁRPÁD VEZÉR PRIMARY SCHOOL IN DEBRECEN

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Abstract:

Talent management is a very important area in the pedagogical program of schools. Examining children's interests or raising their interest can provide students with a learning motivation that allows talent to unfold or help the process of becoming a talent which the joint coordinated work of the teacher-student-parent can make the most effective. In our article, in the care of the talents of the students of the Árpád Vezér Primary School in Debrecen, Elektra Tóth (class 5B) we present the project presented by Ildikó Czeglédi and the process and participants of talent management as a good practice. The topic of the research was space exploration and astronomy, which could be a very interesting topic for other students. It deals with objects that seem to motivate children in the process of cognition, seeming a bit mystical and unreachable at light-years away. It was prepared for the VI. Debrecen City Talent Care Student Conference event was on March 10, 2022. The project consisted of a 3-page dissertation and a 5-minute presentation. The survey (N = 357) was completed by upper-elementary students who study in the Northern Great Plain region. The questionnaire found answers to the question of whether children are interested in space research, where they can get information about it, and what kind of school program they should be involved in related to this topic. The results of the questionnaire were processed using

SPSS software, and we calculated basic statistics (mean, standard deviation) and correlation analysis (independent t-test, chi-squared distribution) too. The research confirmed that children are interested in the topic, but we were able to show a significant difference in the motivation of boys and girls during school programs. These are worth considering for teachers who organize school programs so they can reach children even more effectively in this topic. Girls can be addressed with the utility of space exploration, drawing and crafts classes, and lectures, while boys can be addressed with online games.

Keywords: Talent management, Primary school, Learning motivation
Disciplines: Pedagogy

A TEHETSÉGMENEDZSMENT TAPASZTALATÁBÓL –
JÓ GYAKORLAT A DEBRECENI ÁRPÁD VEZÉR ÁLTALÁNOS ISKOLÁBAN

Absztrakt:

A tehetséggondozás nagyon fontos területe az iskolák pedagógiai programjának. A gyerekek érdeklődési körének vizsgálata vagy az érdeklődésük felkeltése jelentheti a tanulók számára azt a tanulási motivációt mely lehetővé teszi a tehetség kibontakozását vagy segítheti a tehetséggé válás folyamatát, melyet a pedagógus-tanuló-szülő közös összehangolt munkája tehet a legeredményesebbé. Tanulmányunkban a Debreceni Árpád Vezér Általános Iskola tanulói tehetséggondozásában Tóth Elektra 5. b. osztályos tanuló és mentortanárja Czeglédi Ildikó által bemutatott pályaművét és a tehetséggondozás folyamatát és résztvevőit mutatjuk be, mint jó gyakorlatot. A kutatás témája az űrkutatás és csillagászat volt, mely igen érdekes téma lehet a diákoknak, hiszen olyan objektumokkal foglalkozik, melyek fényévnyi távolságban kissé misztikusnak és elérhetetlenek tűnve motiválják a gyerekeket is a megismerés folyamtára. A VI. Debreceni Városi Tehetséggondozó Diákkonferencia 2022. március 10-n rendezett eseményre készült, a pályamű egy 3 oldalas dolgozatból és egy 5 perces kiselőadásból állt. Az Észak-alföldi régióba tanuló felső tagozatos diákok által kitöltött kérdőíves kutatás (N=357) arra kereste a választ, hogy érdeklődnek-e a gyerekek az űrkutatás iránt, honnan szereznek erről információt és milyen iskolai programba kapcsolódnának be, ami ezzel a témával kapcsolatos. A kérdőív eredményeit SPSS szoftver segítségével került feldolgozásra, alapstatisztikát (átlag, szórás) és összefüggés vizsgálatot (independent t test, Chi 2 proba) számítottunk. A kutatás igazolta, hogy a gyerekek érdeklődnek a téma iránt ám az iskolai programok során a fiúk és lányok motivációjában szignifikáns eltérést tudtunk kimutatni, melyeket az iskolai programokat szervező pedagógusoknak érdemes figyelembe venni, így még eredményesebben tudják a majd a gyerekeket megszólítani a témában. A lányokat az űrkutatás hasznosságával, a rajz és technika foglalkozásokkal és előadásokkal lehet megszólítani, míg a fiúkat az internetes játékokkal.

Kulcsszavak: tehetséggondozás, általános iskola, tanulási motiváció
Tudományterületek: pedagógia

Introduction

According to Gyarmathy at the beginning of the 20th century, Hungary was also considered a citadel of talent management, both in its solutions and its results (Gyarmathy, 2010, 2013). Endre Czeizel (1997) suggested, essentially in accordance with Gagné's Distinctive Model (1991), that the use of the word 'talent' be used to refer to an individual who is significantly above average, that is an exceptional endowment, potential, or opportunity. In this way, the possibility must be distinguished from the promise. Czeizel suggested the use of the expression "talent" used by Géza Révész (cit. Gyarmathy, 2010) in the case of individuals who realize their talent in creation. However, the concept did not go into either the official vocabulary or the public consciousness. The official talent concept in Hungary does not carry such distinctions. Because of this professional issues often take place in obscure and gloomy terrain (Gyarmathy 2010, 2013).

Many valuable forms of school talent development have evolved over the past century. Using them, the hidden talents of many children have been discovered and developed by teachers. Based on empirical experience, methods that used the results of pedagogical and psychological research have also become increasingly effective. The case studies and concrete examples in the literature on talent management are very valuable, which can help the experts involved in talent management with new ideas and creative solutions.

Literature Review

A lot of home and international literature has been published on the concept of talent (Czeizel 1997) and its content too. There is literature that examines talent in a psychological context (Gyarmathy, 2010; Baker et al, 2019). Some examine the relationship between academic achievement and talent (Józsa et al, 2021). Some analyze the methodological aspects of talent management (Mező, 2008; Coutinhoet 2016; Rákó & Bocsi 2020).

The literature on talent development focuses on skills subjects such as music (Turmezeyné and Balogh, 2009), sports (Rácz, 2017; Baker et al, 2018), visual culture (Winner and Drake, 1996), and naturally, experiences in studies in other subjects (Baum and Perera, 2017) as well. Becoming a talent is a long process in which the characteristics of the talent are present to the last, but not necessarily in a form that is perceptible or acceptable to the environment. Talent is naturally present in everyday life. It is the schools' task and responsibility to educate students about different topics and areas, to find an area that motivates the student which helps and supports the process of becoming a talent. In the field of sports, several programs help and support the selection and care of talents, a good example is school sponge handball (Juhász et al, 2016).

Among the international talent theories, Renzulli's (1978, 1994, 1985) theory exceeds, according to which talent cannot be identified on the basis of a factor, because it is much more complex. According to his research-based theory, talent is based on three characteristics of creative/productive people. These three qualities or components are: above-average skills, commitment to a task/job, and creativity.

Mező & Mező (2014) identifies 4 important factors of talent management: the motive for the special occupation with talented students appearing in the pedagogical program of educational institutions. The other is the professionalism of teachers. The third reason is an advertising campaign in the name of "attracting talent". The fourth reason may be that nurturing talent can be a really good investment for schools, which can improve the effectiveness of the institution.

Characters in talent management

The present project was materialized in a triple unit of the teacher, student, and parent. The mentor teacher formulated topic ideas and suggestions that aroused the student's interest and found the topic that motivated him or her. Then she collected secondary data to help the student navigate the topic and help them choose from these interests. Parental support and additional motivation ensured that the student, with the support they received from the primary socialization arena, was assured that they would support and help them in the task.

The help and support of the research were realized as a result of the collective work of the teacher-parent and the child. After the work was put into shape, the mentor teacher helped to review the dissertation and to give a proper communication presentation of the lecture.

A work created as part of the talent development program

In the following, we will be presented with the result of a good practice implemented in this triple unit.

Secrets of Space, or Pand other Celestial Wonders – excerpt from the work of Elektra Tóth (2022):

My choice of topic may seem bold, but I have been attracted to this topic since I was a child. As a child, I always watched and admired the stars in the sky. They were very beautiful for me. Standing under the starry sky and admiring it is a huge experience, I enjoy every moment. I have also featured this topic in my previous school work, e.g. space painting in Art lesson (picture 1) or in my presentation on dogs, I also told about Lajka, who was the first to get into space.

Humans have been scanning the secrets of the sky for thousands of years, so astronomy is one of the oldest sciences of humanity to observe and explain extraterrestrial phenomena. Astronomy helped the ancient Egyptians determine the flooding of the River Nile, which meant harvesting a safe crop.

Picture 1: Earlier watercolor painting of space. Made by: Elektra Tóth

The Egyptian pyramids prove their astronomical knowledge, as these structures were oriented north-south. The remains of Stonehenge in England attest to the fact that in ancient times our ancestors made huge objects, some of which were probably used for astronomical purposes, with which the length of the seasons could be determined and used as a calendar. But with the help of astronomy, shipping and trade could also develop. Astronomy has evolved a lot in ancient times, the Middle Ages, and modern times, through the discoveries and statements of well-known scientists such as Aristarchus, Ptolemy, Copernicus, Galileo, Kepler, and Herschel.

Modern astronomy has discovered objects such as quasars, which are stellar radio sources or pulsars, which are rapidly rotating neutron stars with a strong magnetic field or the black hole (a cosmic body of extremely intense gravity from which even light cannot escape.)

Lenses were already made in ancient Assyria, but in the 1540s they were able to create binoculars that resulted in 2-3 times magnification.

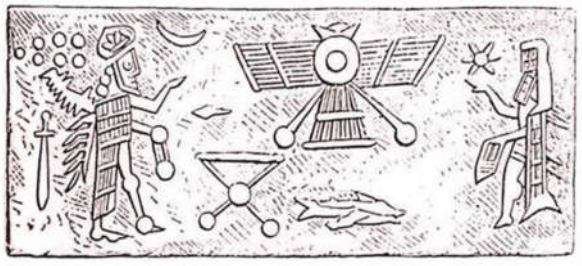
The Hubble Space Telescope is a space telescope. It was made in 1990. The successor and modern version of the Hubble Space Telescope is the James Webb space telescope, on which several Hungarian researchers and astronomers have worked. A space telescope cost HUF 3000 billion and it was launched on 25. December. 2021 from South America. It has been orbited 1.5 million kilometers from Earth and it will record and observe the planets and moons of the solar system. Infinite space hides many galaxies, stars, planets, meteorites, of which we can read a lot of interesting things. It is very difficult to choose from them because each of them has its own curiosity and uniqueness. Mercury is very interesting, a planet without an atmosphere, a strong magnetic field, and a cratered surface or Venus, which is richly covered with a cloud, the brightest celestial body after the Sun and Moon. Jupiter is the fifth planet from the Sun and the largest in the Solar System. It is a gas giant with a mass more than two and a half times that of all the other planets in the Solar System combined.

Jupiter is primarily composed of hydrogen, but helium constitutes one-quarter of its mass and one-tenth of its volume. Its ring system and helium-hydrogen atmosphere are very unique. Saturn, the second-largest after Jupiter, is also exciting. A planet with a ring system of debris and ice. Uranus with a ring system, currently with 27 moons, or Neptune with 14 moons, was discovered by Herschel.

In our solar system, after Earth, Mars received perhaps the most attention. The Red Planet was already illustrated by the Sumerians living between the Tiger and the Euphrates as a life where possible. A meeting of two astronauts was drawn on the more than 4,500-year-old clay tablet. (picture 2).

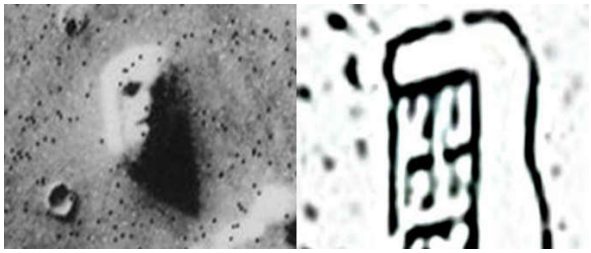
One astronaut comes from Earth and the other from Mars, which was read from signs drawn on the board.

Picture 1: Earlier watercolor painting of space. Source: http://maga-a-valosag.com/?page_id=430



The 7 planets next to the left head represent the Earth as the seventh planet from the outside into the Solar System. The other astronaut comes from Mars, marked by a six-pointed star above his right hand, as the sixth planet arrives in the Solar System on Mars. (Stitchin 2002). The special shapes are also very interesting that may be featured in former NASA recordings, such as a figure representing a human face (picture 3)

Picture 3: The astronaut's face. Nasa recording. Source: http://maga-a-valosag.com/?page_id=430



Life on Mars with a level of development similar to that on Earth might not have come into existence because the average temperature on Mars is much lower than on Earth, temperature above 0 degrees is very rare. What made the possibility of life on Earth explored are similarities such as the presence of water, ice caps on the poles, traces of watercourse, volcanoes, or organic compounds.
The most basic form of life, however, is inferred from the presence of methane and water. According to recent research, methane gas found on Mars may indicate that rudimentary life may be

on Mars. We have been reading about Mars research for decades. In the Negev Desert in Israel, 6 astronauts prepare for a 4-week expedition to Mars planned for 2030, where they will try out spacesuits and equipment that will be used in a future expedition. Mars is considered to be best placed to establish a colony by settling humans there (Maki et, 2020; Williford et al, 2018; Gábris et al, 1998; Almár, 2003).

Space exploration seems to many of us to be very distant from the human earthly world, as it deals with the study of celestial bodies that are almost inconceivable to us in light-years away.

However, the results of space exploration, even if not conscious of us, are used every day. With the advancement of space exploration, satellites help the television or calling that children use these appliances on a daily basis. Space surveys make production safer in agriculture, but flood and disaster management also use data from the various land surveys they are used to analyze.

Meteorological satellites are important tools in weather forecasting, it can save lives by predicting natural disasters (storms, heavy rainfall).

Navigation satellites help with traffic, so we often find the address with some kind of navigation system when we travel by car. Aluminum foil, solar panels, fire-resistant clothing for firefighters, or an air killer or certain processors are also products of space exploration.

A lot of money is spent on the development of space research, so we use the results achieved there in our daily lives. (the developed technologies and tools)

Do you know? One of the world's brands, Nike, asked NASA's former employee Frank Rudy in one of the running shoe developments to adapt an invention used in space exploration to the shoes. It was in 1977 that Rudy brought the idea Nike to put small airbags in the shoe's sole to Nike. The first prototype was created in 1979 and implemented into running shoes the same year. This brought economic success to the company because it was able to sell a lot of shoes at high prices. NASA has also developed a Food Safety Reporting Method (HACCP) that is used today, for example, in school canteens. The aim was to protect the health of astronauts from food-related contaminants.

Who can be an astronaut? Expectations for astronauts are very high. They must not only have specific physique parameters, higher education, excellent health, professional experience, or foreign language skills but their fitness must be outstanding too. That's why the aerobics exercise program, one of the most popular fitness programs of our time, was developed for NASA astronauts distributed by a soldier's wife in combination with music to recreational athletes. (Müller & Rácz, 2011). It is interesting that the first Hungarian space tourist was a Hungarian businessman living in America, Charles Simonyi who paid $ 20 million to get into space, which he enjoyed very much so he took part in a space trip twice.

The Minister of Space, Dr. Orsolya Ferencz, said in an interview that as space exploration has become an integral part of our everyday lives through the products and services we use every day, it is important that children become familiar with this subject at school, "either through projects or through the use of creative, colorful, interactive and innovative interfaces", which attracts the children's attention.

Therefore, I thought I was organizing a questionnaire survey on space research among my own age group, which I would conduct online because of the coronavirus. (Covid-19)

What knowledge do they have on this topic? What motivates them to acquire knowledge? Where do they get the most knowledge? What programs would they like to participate in that are related to space exploration? Furthermore, my goal was to use the results of the research to propose the inclusion of space research in school curricula. Before my research, I assumed that boys were

more interested in knowledge and programs related to space exploration.

Material and method

I made an online questionnaire using a google form, and then the link was sent electronically to elementary schools. The questionnaire was filled in by upper school students who study in the Northern Great Plain region. N=357, boy=162 people (45,4%), girl=195 people (54,6%).
From the data, we calculated basic statistics (mean, standard deviation, distribution) and correlation analysis (chi2 test, independent t-test) using SPSS program 26.0.

Results

Table 1 illustrates that children get the most information about this topic at school most through compulsory subjects, and then from the television. In third place, they mentioned the Internet, followed by books as a source of information. The answers of the boys and girls were different: girls prefer to obtain information from compulsory subjects and books rather than boys.

84.3% of the responding children would like to participate in the space-related exhibition but electronic games (78.2%) or lectures (75.1%) and drawing and crafts classes (63.6%) also motivate many many children (table 2). Electronic games are more likely to be chosen by boys, while drawing and crafts classes are preferred by girls (table 2).

Table 1. Evolution of space knowledge in the light of gender. Source: Tóth & Ceglédi, 2022.

Place of information from space exploration:	yes Boys (%)	yes Girls (%)	yes Total (%)	chi2 test based on p
from television through educational films	75,9	70,3	72	no difference
within the compulsory subjects at school (environment, natural sciences, geography)	68,5	80,0	74,8	chi^2=6,187 p=0,009
on electronic interfaces (on Internet interfaces)	64,2	63,6	63,9	no difference
from the books	42	55,4	49,3	chi^2=6,366 p=0,008
from nowhere	19,8	13,8	16,5	no difference

Table 2. Evolution of students' interest in space in the light of gender. Source: Tóth &Ceglédi, 2022.

I would love to be involved in space research:	yes Boys (%)	yes Girls (%)	yes Total (%)	chi2 test based on p
exhibition	80,9	87,2	84,3	no difference
testing electronic games	82,7	74,4	78,2	chi^2=3,619 p=0,037
drawing and crafts classes	46,9	77,4	63,6	chi^2=35,603 p=0,000
presentation/lecture	68,5	80,5	75,1	chi^2=6,802 p=0,007

Asking the children about their knowledge of space, we can state that they know the most about planets and moons, and then about space, as these things also appear in subjects. They know less about astronauts and spacecraft. And they know the least about the everyday developments in space exploration. There was no significant difference in gender responses (table 3).

The children said that the knowledge about space was the most interesting and modern. It is followed by the utility and the indispensable answer in everyday life (table 4). Rather the girls considered it more important that knowledge about space is useful and indispensable to us.

Suggestions

The research confirmed that upper-school children are interested in space-related curriculum materials, news, information, and they are happy to participate in various school programs. We can observe differences in the interest and motivation of boys and girls which are worth considering for teachers organizing school programs, so that they can address the children even more effectively on the topic. Girls can be addressed with the usefulness of space exploration, drawing, and crafts classes, and presentations, while boys can be addressed with online games.

Table 3. Development of space exploration in the light of gender on the basis of the 1-5 likert scale (where 1= not typical at all, 2= a little bit, 3= so-so, 4= typical, 5= fully typical). Source: Tóth & Ceglédi, 2022.

	Boys average (standard deviation)	Girls average (standard deviation)	t
I know the concept and elements of space.	2,94 (1,035)	2,88 (1,043)	0,611
I have already read or studied about many planets and moons.	3,35 (1,130)	3,13 (1,130)	1,79
I know astronauts and spacecraft.	2,60 (1,192)	2,37 (1,093)	1,45
I know the utility of space exploration for everyday life.	2,33 (1,21)	2,28 (1,116)	0,366

* p>0,05

Table 4. Assessing the topic of space exploration in the light of gender on the basis of the 1-5 likert scale (where 1= not typical at all, 2= a little bit, 3= so-so, 4= typical, 5= fully typical). Source: Tóth & Ceglédi, 2022.

Knowledge of space research and space:	Boys average (standard deviation)	Girls average (standard deviation)	t	p
find it useful	3,38 (1,33)	3,44 (1,14)	-0,452	p=0,007
find it interesting	3,69 (1,29)	3,78 (1,19)	-0,706	p>0,05
gives new knowledge	3,46 (1,32)	3,68 (1,22)	-1,582	p>0,05
an essential part of our lives	2,75 (1,38)	2,94 (1,23)	-1,378	p=0,0014

The topic of space exploration and space is definitely worth incorporating into school talent management programs and competitions, as the research proved the children's curiosity and high interest in it." (Tóth, 2021)

Abbreviations used:

- NASA= The National Aeronautics and Space Administration
- HACCP= (Hazard Analysis of Critical Control Points)
- SPSS: Statistical Program for Social Sciences

Conclusion

The work we presented in talent development and the process of preparing it can help teachers in this process. The dissertation also shows that children are also interested in topics that are less "close" or we have less knowledge of the subject but it provides an opportunity to consciously expand children's interests by raising the topic with sufficient motivation.

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