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A GIFTED PUPIL IN CZECH SCHOOL: PRIMARY SCHOOL TEACHERS' PERSPECTIVE ON EDUCATION OF GIFTED PUPILS

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Abstract

The paper summarizes the results of a research that focuses on teachers' views on the education of gifted pupils. Our research questions are: What does the term “gifted pupil”

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mean according to teachers? What are primary teachers' attitudes to teaching gifted pupils? What obstacles do teachers come across when educating exceptionally gifted pupils in a regular classroom? First, we studied the concept of a gifted pupil in general, or specifically in mathematics, both in foreign and Czech literature. Then we defined this concept for our needs. We wanted to map the demands on and attitudes to gifted pupils of teachers in the Czech Republic. To do this, it was necessary to find suitable tools for quantitative research. We were inspired by the study (Machů, 2019) and decided on a questionnaire survey and the use of metaphor within it. By analyses of teachers' metaphors, we obtained their views on having a gifted pupil in the classroom. We were also interested in the self-perception of pupils marked as gifted. In the paper we offer several pupils' ideas taken from open interviews. To illustrate the situation which any teacher may come across in their classroom, we also present a story of an exceptionally gifted pupil. In the conclusions, we summarize what steps need to be taken in the area and also our first attempts to improve the situation.

Keywords: talent, gifted pupil, teachers' conception of a gifted pupil, metaphors on gifted pupils

Introduction and current situation in the Czech Republic

The first author is a teacher of mathematics and Czech language for gifted primary school pupils. Gifted pupils are in the centre of her interest for many years. She focused on didactics of exceptionally gifted pupils in her diploma thesis and continued research in that area for her PhD thesis.

The key document for mapping the situation in the Czech Republic is (Ministerstvo školství, mládeže a tělovýchovy, 2014), approved by the Ministry of Education in September 2014. It states, among other, that the main reason that prevents effective development of gifted pupils in the Czech Republic is the lack of interest in in-service teacher education in this area. However, this is partly due to the low budget of schools for in-service training, as the offer for teachers on this topic is sufficient. This fact was mentioned in the results from 2009–2013 in the above-mentioned document. Also, the here reported findings show that it is partly due to the lack of teachers' time.

Moreover, pre-service teacher education does not offer any courses on gifted pupil's education. Whereas some attention is paid to work with pupils with learning disabilities. This all despite the fact that a teacher can come across a gifted pupil in any classroom.

A document designed primarily for teachers was prepared by leading Czech experts. It is the methodological manual (Výzkumný ústav pedagogický, 2010). This document draws attention to the results of a 2009 questionnaire survey among primary and secondary school teachers. In this questionnaire survey, 70% of teachers stated that they did not meet any gifted pupil at all, or that these pupils appeared only exceptionally and sporadically. Based on these results, this publication was prepared to help teachers identify intellectually gifted students.

Another document that maps work with gifted pupils is (Výzkumný ústav pedagogický, 2009), which summarizes the basic principles that a teacher should follow in teaching, but also provides basic information on how to create an individual study plan. This publication also mentions two basic ways in which the gifted can be developed – segregation (special classes and schools) and integration (gifted pupils in regular classrooms). Both of these approaches are possible in the Czech Republic.

It is up to each school, its conditions and facilities, what methods of work with a gifted pupil are chosen. However, the way of work with particular pupil must follow the recommendations given by Educational and Psychological Counselling Institution. The tools that Czech school teachers can use are: acceleration – the pupil is moved one grade higher, acceleration of the content, individual study plans for exceptionally gifted pupils, streaming – setting up special groups for gifted pupils, enrichment of teaching with activities beyond regular lessons. Another possibility is the development of talent through extracurricular activities, such as mathematical, programming or robotics clubs, where several pupils with the same field of interest can meet. In the Czech Republic, we should also mention the international social organization International Mensa, which has its branch in the Czech Republic.¹ This organization is the founder of Mensa Grammar School for Gifted Students.

The fact that education of gifted pupils is an important issue all around the world is also documented by the existence of the prestigious conference Mathematical Creativity and Giftedness, where international experience from research on education of gifted pupils, creativity and high competences in mathematics are shared.²

Theoretical background

The theoretical background is based on the concept of giftedness, which we interpret from the perspective of experts in this area.

The concept of talent and giftedness has been discussed all over the world, especially since the second half of the 20th century. While some authors emphasize high IQ of the individual, others also focus on other necessary personality traits. For example, Renzulli (1978), who uses the model of talent, emphasizes that only high IQ is not the essence of talent and two other components must be present: enthusiasm for the task and creativity. Other models of talent also point at the importance of the environment (Mönks, 1992). Other definitions state that if one is to be considered gifted, they must belong to some elite group and be among the top 10% in at least one ability (Montgomery, 2015). Some authors argue that it is not possible to formulate a uniform definition of giftedness. According to Leikin

¹ <http://www.mensa.cz/>

² <https://www.igmcg.org/>

“There are no clear-cut definitions of mathematical creativity or mathematical giftedness.” (Singer, Sheffield & Leikin, 2017, p. 5)

Gifted pupils are often expected to be perfect pupils and to always excel at school. These expectations come from parents, teachers, but also peers. This “flawlessness” of the gifted is questioned, for example, in the typologies of gifted pupils. According to Betts and Neihart (1988) we have six different profiles of gifted pupils. The teacher and parent most easily identify a “successful gifted pupil”, but there are also some types that are more difficult to identify, like “double-labelled children” who are gifted but also have some learning difficulties. Another endangered type may be “the underground gifted”. Although they want to be accepted by their classmates, they often disguise and hide their above-average abilities. These are often gifted girls. Kerr (1985) focuses on gifted girls in mathematics, pointing out there are girls who reject their talents. According to Siaud-Facchin (2008), it is necessary to consider both faces of the gifted – emotional and intellectual. If giftedness is acknowledged and understood, it may represent power and potential. If it is ignored or even denied, it may result in deep feeling of deficiency and frustration.

Even when a gifted pupil is in a particular class, they may not always be willing to work with the rest of the class. It may be tricky if the teacher decides to put them in the position of a “little teacher” for their classmates. According to Leavitt (2017), the problem may be that while gifted pupils may have a greater understanding of the subject, they are not always motivated to share what they know with others. Their motivation can vary even at an early age, which has a stronger effect than later.

In literature we can for example come across lists of characteristics that are mostly flattering and positive and refer to a pupil who is problem-free and has excellent prerequisites for school success. However, a great risk that must be taken into account are social problems of these children such as their inability to integrate into a group of peers, their elitist thinking (the pupils speak of themselves as “gifted” and feel “superior” to others in all respects). This is often connected with the fact that they are unable to cope with mistakes which they perceive as their personal failure. *“The use of the label ‘gifted child’ may lead to the idea that there are two groups of children (gifted and non-gifted). The tendency to classify into two opposing categories – dual personalities – is very old.” (Hříbková, 2012, p. 18)*

Let us present here the learning characteristics of gifted pupil according to Hříbková (2005), one of the most recognized Czech experts on gifted children: the ability to learn new things quickly, individual pace of work, developed imagination, deep knowledge in the area of their interest, reluctance to mechanical learning and drill, perfectionism and other. Our own experience shows that it is also important to be aware of tendencies towards egocentrism, which is a frequent problem. From the social point of view, gifted pupils can consider themselves

“superior” to their peers. Laznibatová (2007) also mentions a strong ego in her list of personality characteristics of gifted pupils.

Methodology

The decision to use a questionnaire as the research tool was motivated and inspired by several studies. The studies served as a source of important topics. The study (Machů, 2019) offered us the methodology that we decided to use. This research focused on conceptions of talent. The respondents were primary and secondary school teachers. The questionnaire was based on the sentence completion technique: A gifted pupil is like a The research data were gained through analysis of metaphors the teachers used to express their relationship to gifted pupils in their classroom. The different conceptions are classified into several major categories: performance concept, sociocultural concept, conservative concept and negative attitudes to talent. Another source of inspiration for the here reported research was the research in (Hříbková, 1994) focusing on teacher, their conception of a gifted pupil and education of gifted.

The main part of the research database for our research are the results of a questionnaire survey. Sixty teachers from different areas of the Czech Republic and with different length of teaching practice participated in the survey. There was no time limit for completing the questionnaire. The questionnaire was created in Google Forms and was expanded in January 2021, using Facebook groups where teachers meet.

In the beginning, teachers were introduced to the purpose and the goal of the questionnaire survey. They were also assured that all the information would only be used as the basis for further research where anonymity of all participants would be maintained. As mentioned above, the questions focused on mapping teachers' opinions on and experience with gifted pupils, on mapping various conceptions of giftedness and on the definition of the concept of “giftedness”, on finding out to what extent the idea of the so-called “child prodigy” appears among teachers. (Hříbková, 1994). The questionnaire consisted of 10 questions mapping teachers' opinions on education of gifted pupils and their personal experience. The key question we focus on is the use of a metaphor. The participating teachers were asked to complete a sentence using a metaphor: *A gifted pupil is like* Then they were asked to justify this metaphor.

Another method used in the research was an open interview with a group (N = 14) of gifted pupils, which was conducted by their teacher, the first author of this paper. She asked them what they thought it meant to be “gifted”. Below, we present their answers for interest and because they have opened a new issue for us for future research.

We also present the story of an exceptionally gifted pupils. His story and examples of his work are the result of the observations of the first author.

Findings

In this paragraph, we present the results of the questionnaire survey. We take a closer look at the analysis of metaphors used by the teachers. We compare teachers' statements on gifted pupils with those of gifted children who were also asked to express their opinion what it means to be gifted. At the end of the section, we present the story of one exceptionally gifted pupil. The story illustrates the exceptionality of gifted pupils with the aim of showing what the difficulty of educating a gifted pupil can be and why teachers find it challenging (this pupil has other needs, sometimes he needs more difficult tasks, which requires more planning). Examples of his work demonstrate how far the knowledge of a second grader in a regular primary school class may reach.

Let us present several interesting metaphors from the survey: *"A gifted pupil is like a sponge because they take in and absorb everything."* *"A gifted pupil is like a one-eyed king among the blind because they excel without actually trying to."* *"A gifted pupil is like a jewel that decorates the class."* *"A gifted pupil is like another teacher."* *"A gifted pupil is like diamond."* If the results are compared to the findings of the research of Machů (2019), the distribution of answers is more or less similar. Machů states that the analysis of metaphors showed one third of the respondents inclined to performance conception of talent.

The analysis of the used metaphors showed that 58% of the participating teachers inclined to the performance conception of talent and perceived gifted students as very capable, successful, above average. Let us add that in some cases the respondents did not use a metaphor, but a different kind of explanation. Although the ideas were also interesting in these cases, we decided not to include them in the results.

Overall 27% of the respondents were aware of the fact that giftedness is often connected with different kinds of social difficulties and that a gifted pupil may not necessarily excel in all areas. Let us again present several interesting metaphors: *"A gifted pupil is like joint vessels with different diameters (some vessels are full or overflowing, other lack something to fullness)."* *"A gifted pupil is like an elephant in a china shop (I remember having been told at school that a gifted pupil is exceptional in some areas, but also very below-average in other fields.)"*

Only rarely could we come across metaphors that would disagree with inclusion of gifted pupils in regular classrooms or that would express negative attitudes to talent or to gifted pupils. This attitude is illustrated by the following metaphor: *"A gifted pupil is like an awn, they can completely destroy a planned lesson."* Answers of this type form 4% of all answers.

The overall opinion on a gifted pupil may also be distorted by the fact that almost half of the respondents stated they had not personally had a pupil diagnosed as exceptionally gifted by Educational Psychological Counselling Institution in their

classroom. Thus, they may have the idea of a so-called “child prodigy” (Hříbková, 1994), which has been formed on the basis of reading, films, and mediated experience.

The following question in the questionnaire built on one of the main problems that is also emphasized in the document (Ministerstvo školství, mládeže a tělovýchovy, 2014) and concerns a teachers’ lack of information, lack of interest in in-service education in this area and insufficient pre-service education. The teachers were asked if they had ever taken a course on educating gifted pupils. The results were very clear and confirmed the assertions from the above-mentioned document. We consider the fact that 74% of teachers have not received any education focusing on gifted pupils to be alarming. We believe education of gifted pupils as well as education of pupils with specific learning disabilities is a topic a teacher-professional should have information about and should have mastered. Unfortunately, this lack of knowledge can lead to a misconception of *a gifted pupil*, which can affect the teacher’s approach to such a pupil or make it almost impossible to identify such a pupil. Only 18% of teachers stated that they had completed a course in educating gifted pupils as part of their pre-service teacher education at university.

The aim of the following questionnaire item was to monitor how happy the participating teachers were with the current state of matters. 91% of the respondents found the support within the Czech system of education insufficient. Only 7% of the participating teachers said the support was sufficient. The remaining 2% of teachers chose another answer. An especially important part of this question is its sub-question that asked how the situation could improve in their opinion. It was surprising how many of the participating teachers opposed inclusive education. Let us illustrate this by several statements: *“Due to inclusive education of pupils who should be educated in special schools (e.g. I had a pupil with moderate mental retardation in my classroom) we have very little time for gifted pupils.”* *“Frankly, I am afraid all attention in Czech schools is paid to pupils with learning disorders etc. Inclusion decelerates education of pupils whose performance could be average or above average. The teacher spends a lot of energy on explaining things to the weaker pupils, there is no time for supporting the more apt ones. It is not only about gifted pupils, it is about all pupils who do not have a problem.”* *“We should stop inclusive education. Due to all the “disorders” I have no time for gifted pupils. The whole class is decelerated.”*

However, the teachers also expressed ideas that did not oppose inclusive education. The respondents spoke of the need for better pre-service teacher education, better awareness and deeper knowledge of all stakeholders, better availability of materials, problems and tasks that could be used in work with these pupils. Some respondents also think that assistants of teachers who would work with the gifted pupil individually would help.

The last item in the questionnaire was surveying a possible interest of the participating teachers in a discussion forum specializing on this topic where teachers could share their experience and materials and lower their anxiety in the area. The participating teachers expressed their interest quite unequivocally - 85% of the respondents claimed they would like to take part in a discussion group like that. Thus, the first author of this paper decided to set up such group. In the beginning of 2021, a group was set up on Facebook with the name: Educating gifted pupils (inspiration, ideas, sharing experience). It should be a safe environment for teachers to look for inspiration, help and examples of good practice. Shortly after the group was set up, it was joined by 342 teachers, which shows great interest.

For a more comprehensive view, let us present now a few statements of children from a free interview. These are authentic statements of pupils who have been diagnosed as exceptionally gifted by the Educational Psychological Counselling Institution. These pupils were asked what in their opinion it meant to be gifted: *“To be gifted means to be – cleverer than others, better at something, above average, bright, apt, hard-working, unusually clever.”* This statement clearly illustrates one of the risks teachers should consider. The fact is that teachers’ conception of a *gifted pupil* will strongly affect their gifted pupils’ self-perception. Thus, the teachers’ conception may help to influence and rectify excessive pressure of gifted pupils on their own performance. To put this in the context of the results of the main research, we can see that also pupils themselves understand their talent as something exceptional and unequivocally positive. This opens a substantial question for further research: *How will the labelling of a pupil as “gifted” affect their self-concept and behaviour in a peer group?*

Now let us turn our attention to the story of one extraordinary talented pupil who the first author was teaching and who was diagnosed as exceptionally gifted by the Educational and Psychological Counselling Institution, i.e. his IQ was greater than 140. Let us call him Michal. We present this case to draw the picture of a situation that can occur in any classroom and school as a similar pupil can appear in any school. Michal is a second grader at a primary school. In mathematics and Czech, he is educated outside the regular classroom in a group of exceptionally gifted pupils.

As this form of organization when gifted and exceptionally pupils are taught outside regular classes in some subject is not so common in the Czech Republic, we also want to pay attention to the benefits and problems of this arrangement. As the first author is a teacher of a group of gifted pupils, she can say from her personal experience that the advantages are: meeting children with common interests (their interests are very different from those of their peers), the possibility of advance faster in the curriculum, preparing more demanding activities for the whole group (as teachers often stated that the time needed for preparing activities for gifted pupils is demanding for them). As a problem of streaming, we can

Furthermore, it turned out that a considerable number of teachers are not satisfied with the current situation and sometimes see the development of a gifted pupil in a regular classroom as something that is impossible under the current conditions when teachers focus on helping pupils with learning disabilities. It is time-consuming for teachers to develop tasks that follow up on the topic of the lesson and develop the pupil. In addition, they should proceed vertically and target at the higher order thinking skills of Bloom's taxonomy. The pupil should not be burdened by more tasks of the same type. Needless to say that this also requires extra work from the teacher. We are convinced that teachers need systematically planned materials that they could use to supplement the official curriculum. The unsatisfactory offer of extra tasks for gifted pupils was one of the obstacles mentioned by the participating teachers. Furthermore, a Facebook group where teachers would be provided with support and inspiration is another way of helping teachers. The last pillar of help to teachers is in-service teacher education in the field of work with gifted pupils. Based on the results from open interviews with gifted pupils, another research stimulus opens up for us in the future – the issue of self-concept of gifted students, which in our opinion needs to be paid attention to.

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SPONTANEOUS CORRECTION PROCESSES IN PRE-MATHEMATICAL LITERACY

Michaela Kaslová 

Abstract

A child ready to start school attendance may not be developed in all the areas on which the process of learning school mathematics is based. One of these areas is work with an error. The research presented here study examined whether and under what conditions a child aged 5-6.5 years spontaneously corrects what they do in kindergarten as part of the development of pre-mathematical literacy. We assume that it is still difficult for children at this age to identify an error in their own activities spontaneously and then correct it. We are aware of the fact that the child's reaction can be indirectly influenced by their environment (the concept of education at home, in kindergarten). The set of observed activities and analysed below was solved by the child individually, the

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