GIFTED PUPILS WITH CONCURRENT SPECIFIC READING DISORDER

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Among various groups of primary school pupils there is a special group of pupils requiring teachers´ special attentions. These pupils are specific for their dual exceptionality, which is the manifestation of the mathematics gift combined with the specific learning or behavioural disability. Pupils who are gifted and at the same time suffer from the learning disability are able to perform extremely well, but their performance is hampered by their disability. The process of their identification is demanding for the teacher, because their disability is very often compensated by the pupils themselves, or they are able to disguise it.

Abilities and handicaps of gifted pupils with specific learning disorders (SLD)

The twice-exceptional pupils can manifest some features which are distinct for their behaviour and performance. In the general level, these features are summarized by Portešová (2014, p. 27); we will concentrate on the area of mathematical abilities.

➢ Pupils´ personal characteristics are widely developed. They are extremely inquisitive, they require the substantiation of various procedures, they often ask: ”Why does it happen in this way?” Among others, they use intuition and insight while solving examples. There appears creativity in a distinctive extent and they are delighted by the new things they have discovered. They are able to search for information purposefully and work with it. They are persistent, they have extensive vocabulary, and they are able to form their own thoughts. They tend to have the sense of humour and developed emotional intelligence.

➢ Pupils manifest highly developed cognitive abilities. They are able to generalize, they perform a significant level of abstract reasoning, and they have greatly developed geometrical and spatial imagination. They discover relationships between mathematical relations and notions easily, form their thoughts promptly. They have good memory, wide range of interests, the desire to learn and acquire new knowledge. They are reluctant to solve tasks where there appear the formerly stated procedures or tasks of algorithmic character.

➢ Although pupils can demonstrate some handicaps, they do not disrupt their intellectual abilities. They can have problems with concentration, attention, with right-left orientation, problems in the area of auditory or visual perception, problems with phonological processing of information. For example, the gifted pupils with the concurrent dyslexia can have problems with the text reading and its comprehension. The gifted pupil with the concurrent dysgraphia can have problems with recording

mathematical examples. Pupils manifest deficits in time management, they do not have formed suitable learning habits, etc.

➢ The gifted pupils with the concurrent learning disorder display problems in the social and emotional areas. Pupils can lack self-confidence, they fear the failure, sometimes they adopt the posture of defence, or they can possibly react in an aggressive way. They often have communication problems with parents, siblings, teachers and classmates.

➢ The pupils´ performance is affected by the concurrent specific learning disorder, e.g. dyslexia or dysgraphia, which is manifested in their performance presentation.

Some characteristics of a pupil gifted in mathematics with the reading disorder

- in the pre-school age the child has an idea of number sets, good geometrical and spatial imagination;

- it has significantly developed intellectual abilities;

- it is able to generalize;

- it learns quicker than its classmates;

- it uses the intuition and insight in a noticeable extent;

- it is inquisitive, searches for information independently;

- it is creative, rejoices at new discoveries;

- there appear deficits in reading, in the area of auditory perception;

- it has insufficient graphomotor speed;

- there appear mistakes in morphology and syntax of a written text;

- it can have problems with time management, planning of tasks;

- it can have problems with understanding and control of own cognitive functions.

Work samples of the gifted pupil in mathematics with the concurrent dyslexia and dysgraphia

The following samples contain several examples of task solutions performed by the pupil of the 5th grade of the primary school. This pupil has diagnosed an exceptional gift in mathematics, and also in other areas (e.g. music, technical sphere or art) and at the same time the reading disorder - dyslexia and partially the writing disorder. There are apparent conflicts between his abilities and handicaps.

Example 1.

Which number can replace the question mark and why?

   a)

1 1 3 6 10 15 21 28 ? 36

(handwritten solution)

   (36, because 1, 4 is added, then 2, 3, etc.)

   b)

3 6 11 18 27 38 51 ? 66

(handwritten solution)

   (There belongs number 66, because we add 3, then 5, 7, 9, 11 – successively odd numbers)

Example 2.

Jirka and Pavel have 80 stamps together. Jirka has three times less stamps than Pavel. How many stamps does Jirka have and how many does Pavel have?

The pupil´s solution:

(handwritten solution)

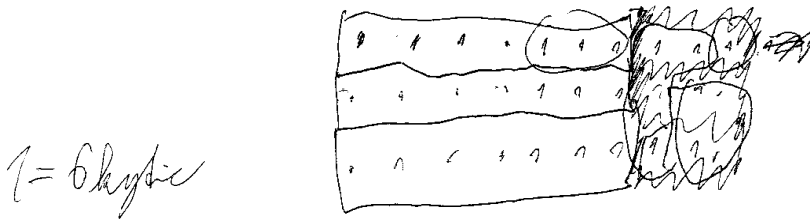   *(20 matches for Pavel and 60 matches for Jirka.)*

Commentary:

   In the examples 1. and 2. There are apparent pupil´s problems in writing. The script is disordered, with confused letters and words (stamp – match; etc.), with frequent crossings out.

Example 3

The florist had 30 carnations. She made bunches of seven and three flowers. How many bunches did she make?

The pupil´s solution:

Commentary:

The boy drew 7 carnations and 3 carnations in one row, and he immediately reported the result – „Three bunches of seven and three of three, six bunches altogether". This topic inspired him to form the next problem, „What would happen if the bunches were made of seven and four carnations?". And he stated the result instantly– two bunches of seven and four bunches of four. And he supplied the calculation: 2 . 7 = 14, 30 – 14 = 16, 16 : 4 = 4.

Example 4.

We are dividing cakes on plates. If we put 6 cakes on each plate, there will remain two cakes. If we put 8 cakes on each plate, one plate will remain empty. How many cakes and how many plates are there?

The pupil´s solution:
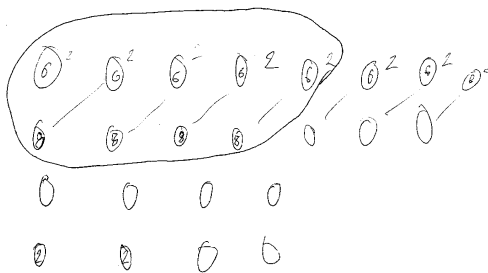
Commentary:

The boy was solving the task only in the graphic way. He drew successively two rows of plates. He wrote number 6 on the plates in the top row and added 2 to each plate. He wrote number 8 to the plates in the bottom row. In this way he was looking for the number whose octuple is greater by 2 than the sextuple of some other number. He studied it and also

illustrated the fact that in the case of eight cakes on the plate, there will remain one plate empty. Through the experiment he arrived at the solution 5.6 + 2 = 4.8 = 32, i.e. There are 32 cakes and 5 plates.

At both examples 3 and 4, there could be seen that the boy prefers the graphic representation.

Example 5.

There were 48 cakes in the bowl. Daddy ate one sixth of all, Radek ate the fifth of the rest, and mummy ate one quarter of the cakes that remained after Radek. How many cakes were there left in the bowl? How many cakes did each of them eat?

The pupil´s solution:

48 =7   40 = 7   32 => [24]   Každý snědl 8k.

(Each ate 8 c.)

Commentary:

He used the mental solution. He illustrated the correct solution briefly with the help of arrows.

Example 6.
Pavel says to Ondra: Give me 5 marbles and I will have twice as many marbles as you have. Ondra replied: Give me 5 marbles and we will both have the same number of marbles. How many marbles did each of them have originally?

The pupil´s solution:

$$10^O \qquad 15^P$$

20   25

20   30

[25   35]

Commentary:

He solved the task with the use of insight. Mentally, he was searching for multiples of number 5 which satisfy the conditions of the task.

From the above given examples there is obvious the need of the individual work with the pupil, because his way of solutions does not always have to reveal his high mental potential.

He expresses himself briefly, in broken sentences, and often uses abbreviations and symbols. Instead of using sentences, he prefers the graphic solution of problems. Therefore, it is necessary to communicate verbally, so that he can present his thoughts.

In the school practice, a lot depends on the professional competences of the teacher who educates such a pupil, it means whether the teacher is able to identify the pupil´s gift despite his possible learning disorder and then he is able to develop the gift further. A good teacher - mathematician is capable of developing the pupil´s mathematical talent while eliminating the pupil´s deficits caused by the learning disorder. On the contrary, if the teacher sticks to the formal way of teaching (e.g. emphasises formal notations, requires prescribed ways of solutions, etc.), then the pupil´s talent can be suppressed and the learning process could be made rather uncomfortable.

References

BLAŽKOVÁ, R., VAŇUROVÁ. M.: Charakteristika nadaného žáka s poruchou učení z hlediska matematických úloh. In Uhlířová, M. (ed): *Matematické vzdělávání v kontextu proměn primární školy.* Olomouc: Univerzita Palackého, 2010, s. 57 – 61.

BLAŽKOVÁ, R., PORTEŠOVÁ, Š., VAŇUROVÁ. M.: Nápadné výkonové rozpory při řešení matematických úloh u nadaného žáka se souběžnou dyslexií. In Šimoník, O. (ed): *Vzdělávání nadaných žáků.* Brno: Pedagogická fakulta MU, 2010, s. 93 – 113.

PORTEŠOVÁ, Š.: *Skryté nadání. Psychologická specifika rozumově nadaných žáků s dyslexií.* Brno: Masarykova univerzita, 2009.