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Pedagogical activities with gifted children on primary schools in the Czech Republic

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Abstract

The article presents a study the aim of which was to evaluate selected forms of pedagogical activities with gifted pupils declared by 681 teachers in the questionnaire. One of the main findings of the research was that the teachers are able to modify the contents of the curriculum, and on the contrary, they have problems with modifying the educational process and introducing selected principles of inclusive pedagogy into practice. Furthermore, it was discovered that the better quality level of the care of gifted pupil s is declared by women, pedagogues with a longer practice and pedagogues of humanities.

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1. Introduction and theoretical starting-points

Nowadays, the issue of care of gifted pupils is a very lively topic all over the world which speaks to both laymen and professionals in many fields. The following text focuses on the educational approaches to the care of gifted pupils and it is attempting to connect these approaches with the individual principles of inclusive pedagogy.

When we try to define giftedness, it is most often described as an individual's ability in a selected area recognized by the socio-cultural environment which is quantitatively and qualitatively more developed in comparison with their peers (Heward, 2013). Porter (1999) claims that these definitions may take a more concrete shape depending on their conception. It is e.g. the liberal vs. conservative conception (the estimated amounts of the gifted in the population differ), single- vs. multidimensional (according to the number of criteria during the identification of giftedness), the definition of potential vs. the demonstrated performance. Our conception of

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giftedness is based on the multidimensional liberal definitions and is focused on the intellectual giftedness. A gifted pupil is not only a pupil diagnosed by pedagogical-psychological counseling center but also a pupil who has not been diagnosed yet, although the pupil manifests the signs of giftedness in the intellectual area.

Let us focus on the education of gifted pupils. For the purpose of respecting specific educational needs of gifted pupils, it is usually recommended to modify curriculum in its content, process, product, environment and evaluation, as its components are usually interconnected (Riley, 2011). The output of this is the so-called enrichment curriculum for the gifted pupils (Riley, 2011). Modifications of the contents of the education concern the qualitative change of the curriculum contents. It is related to the teacher's ability to plan and apply the educational aims and therefore offer the differentiated approach to the gifted pupils using higher aims. Most often, it is the curriculum modification using Bloom's taxonomy of cognitive aims (Smith, 2006). Modification of process is the change in performing education in the sense of using educational methods and organizational forms focused on the strategy of developing critical, problem-solving and creative thinking. Modification of product is a request for the qualitative or quantitative change of results of education when the gifted pupils have the possibility of achieving the highest possible aim of education. Modification of environment involves the personal-relation change (quality communication of all the participants of the educational process, co-operation, etc.) and also the spatial-material change (didactic aids, specialized classrooms, etc.). Modification of evaluation involves the change of evaluation of the results of education which has to motivate and form the gifted pupil. (Hunt & Seney, 2009)

Nowadays, interconnecting the principles of care of gifted pupils and the requirements of inclusive education is becoming more and more important. The pupils are not divided into two groups (i.e. the ones with special educational needs and the ones without) but they form one heterogeneous group with various individual needs. All participants of the educational process are adapting to the various need of all pupils, they aim for creating differentiated conditions for the inclusion of all the pupils (if possible) to all activities related to the school attendance and maximum development of abilities and skills of all individuals. During the education, the pedagogical strategies leading to the inclusion of the pupils are used to the maximum level. The strategies leading to the exclusion of a pupil from the collective are limited to the minimum. (Nind et al., 2013)

If we talk about the principles of inclusive education in relationship with the care of the gifted pupils, a gifted pupil is viewed by the peers as a natural part of the class collective. The gifted pupil is not labeled as "gifted" or by work above the enrichment curriculum which is meant only for the gifted pupil. It is a pupil who, like the others, stands out in some areas and does not in others. Other pupils have the same option to work according to the enrichment curriculum. It is a collective where every child develops its talent; it is a collective where pupils teach and enrich one another. (Machů & Kočvarová, 2013)

Although inclusive education have been penetrating the issue of giftedness for almost ten years, the perception of the basic principles of inclusive pedagogy in relationship with the care of gifted pupils has not been unified yet. It is apparent e.g. in publications about inclusive education of Riley (2011) and Smith (2006), where exclusive tendencies in education, e.g. application of strategies of gifted pupils development in the form of independent studying, working in groups with homogeneous performance levels, the need of a specialized educational program and specially trained teacher for a group of diagnosed gifted pupils, etc., are commonly recommended.

Let us focus on specific empiric studies of educational approaches to gifted pupils at common primary schools. There are foreign studies researching the influence of specific educational programs for development of gifted pupils. It is, for instance, an American research of authors Friedman & Lee (1996), which applied 3 enrichment models – Enrichment Triad Model, Multiple Talent Model and Affective Interaction Model, on pupils aged 11-15. The research did not confirm any significant changes in cognitive and affective parts of gifted pupils' personalities after absolving the enrichment programs. Looking through the databases EBSCO, Academic Search Complete and ProQuest central, we can also find 2 studies, also from the USA, mapping modification strategies of teachers from common primary schools developing the pupils' giftedness. The authors Westberg & Daoust (2004) and Van Tassel-Baska & Stambaugh (2005) state that relatively few teachers were modifying their classroom instructions for the pupils identified as gifted in regular classroom.

In the Czech Republic, there is a large area survey from 2007/8 which was conducted by the Czech School Inspection, which is an evaluative and control administrative office in the Czech Republic. The main goal of the research was to give a summary about the creating the conditions for satisfying the educational needs of gifted

pupils and about the ways of work leading to further development of their giftedness (Entler et al., 2008). The conclusion of the inspections was that there is a lot of ambiguity, myths, stereotypes, and simplifications. The care of gifted pupils is therefore not satisfactory. The authors of the study asked the pedagogical community to conduct further researches focused on education of gifted pupils with the aim to improve the care of the gifted population.

Uniting the care of gifted pupils with the principles of inclusive education is unique in the area of empiric studies. We decided to build on the aforementioned studies with our own research where we focused on selected criteria of care of gifted pupils connected with the individual principles of inclusive education.

2. Methodology

The **main aim** of the research was to describe and evaluate selected forms of pedagogical activities with gifted pupils which teachers from primary schools declared in questionnaires. The partial goals were:

1. Describe and evaluate the level of care of gifted pupils from the viewpoint of individual items (4 factors) and the questionnaire as a whole.
2. Describe and evaluate the level of care of gifted pupils from the viewpoint of selected characteristics of teachers (gender, length of practice, focus of education).

The **research tool** was an original questionnaire. A questionnaire with 37 scale items, which was filled in by 162 teachers, was created in connection with the theoretical viewpoints. Each item was focused on a selected problem of pedagogical practice about the development of gifted pupils with the aid of curriculum. Each of the questionnaire items offered three different solutions. One of the offered options was an unsuitable solution because it was not in concordance with specific educational needs of gifted children and did not respect the possibility to modify the curriculum (the respondent was given 0 points in case of choosing that option). Another option was a compromise where the teachers used a limited possibility to modify the curriculum but not considering the principles of inclusive education (1 point). Another option was considered to be the ideal approach to the care of gifted pupils considering our criteria (2 points). The contents of the questionnaire were consulted with professionals and also with practicing teachers with the emphasis on the fact that the individual options did not directly prompt the respondents to choose the option which had been assigned the highest score.

The following table presents an example of two items from the questionnaire and their scoring.

Table 1. An example of two questionnaire items including scoring.

a) School has not enough didactical aids for the development of the pupils' giftedness (textbooks, prose, encyclopedias, plenty of computers, etc.). *(0p)* b) School is comparatively well equipped with didactical aids for development of the pupils' giftedness. These aids may be used by all pupils from the class or year equally. *(2p)* c) School is comparatively well equipped with didactical aids for development of the pupils' giftedness. These aids are used by the gifted pupils which they are specifically meant for. *(1p)*
a) Teachers approach the contents of education equally. They develop all the pupils evenly. *(0p)* b) During education, teachers develop the giftedness of the diagnosed giftedness only. *(1p)* c) During common lessons, teachers develop giftedness of all the pupils regardless of diagnosed giftedness. *(2p)*

Questionnaire items were analyzed using factor analysis, based on this analysis, 19 items were selected and structured into 4 factors (F1 - F4). Inner consistence is based on Cronbach's α coefficient as follows: F1 - 0,61; F2 – 0,68; F3 – 0,63; F4 – 0,72. The final version of the questionnaire included 19 items (+ items asking for demographic information). The name and thematic content of individual factors were as follows:

- Factor 1: "The school's support of the gifted pupils": communication with the gifted pupils' parents; teachers' interest in the issue of giftedness; the material-didactical aids the school is equipped with (see

table 1); development of gifted pupils in all parts of their personality; creating innovated didactical materials by the teachers.

- Factor 2: "Curriculum differentiation": the way of revising; application of basic and extended curriculum; differentiation of the results of education; the way of taking notes during education."
- Factor 3: "Differentiation of didactical tools": the use of activating methods in education; ongoing diagnosis of pupils' giftedness; respect and development of pupils' individual learning style; enrichment of education contents (see table 1); modification of pupils' evaluation.
- Factor 4: "The conditions of the realization of the curriculum": updating the enrichment curriculum for the needs of the pupils; enrichment curriculum in the conception of inclusive education; mutual co-operation of pedagogues during creating of the enrichment curriculum; home assignments developing creative thinking; teachers open approach to inclusive pedagogy.

The research sample were teachers from sixth to ninth class of common Czech schools. The research set included 681 respondents from the whole Czech Republic (i.e. teachers filling in the final version of the questionnaire), with most of them coming from the Zlín region, Moravskoslezský region and Jihomoravský region of the Czech Republic. Information concerning the gender, length of practice and the focus of education (humanities or natural sciences) of participants were taken.

3. Results of the Survey

The first goal of the research was to describe and evaluate the level of care of gifted pupils from the viewpoint of the individual items (4 factors) and the questionnaire as a whole.

Now, we will focus on the average score for the individual factors. In the individual factors 1, 3 and 4 which have 5 items, it was possible to achieve 10 points max. In factor 2, with 4 items, it was possible to achieve 8 points max. Because the maximum amount of points, which was possible to achieve in the individual factors, was not uniform, we set up differences in the scoring of the factors based on the average of the achieved points (on a scale 0 – 2), not the sum of the points. The factor with the best score was F2 (☐1.47), then F3 (☐1.36) and F4 (☐1.26), the factor with the worst score was F1 (☐1.21).

Most pedagogues achieved the highest amount of points in the factor F2 "Curriculum differentiation". The teachers do not have any significant problems in the differentiation of the curriculum and the results of education. The items with not so positive score, however, need to be emphasized. Almost 36% of teachers use lectures or dictation. 26% of teachers stated that for meeting the enrichment requirements they purposefully lead only the diagnosed gifted pupils, not the others, which is not in concordance with the inclusive education.

The second factor was F3 "Differentiation of didactical tools". The teachers are therefore able to do an ongoing diagnostics of giftedness, they attempt to modify the evaluation of the pupils. On the other hand, only 20.4% of teachers use mostly traditional educational methods and 19.8% of them base their teaching on their own education style, not on the needs and learning styles of the pupils.

A worse score was achieved by factor F4 "The conditions of the realization of the curriculum". The results in this area testify that the inner settings of the school rules help the teachers to perform a quality education of the gifted pupils and, if possible, introduce educational innovations into practice. However, we can find signs of problems in this area as well. Almost 37% of teachers stated that the rules of the care of the gifted are created only by certain pedagogues. This is connected with the statement of 27% of respondents that the teachers have the possibility to come up with their own suggestions for innovation but they are not introduced into practice.

From the viewpoint of the individual items, factor F1, named "The school's support of the gifted pupils", showed the most contradictory results which seem as if the pedagogues at the schools do not have clearly set priorities in the approach towards the gifted pupils. For instance, only 19% of teachers are interested in further education in the issue of care of gifted pupils.

Now, let us describe the results of the questionnaire as a whole. The maximum score was 38 points and the minimum score was 0 points. In total, the teachers achieved from 6 to 36 points. Considering the total score of the questionnaire, we created the following intervals for the evaluation of the quality of care. The average score of all

the respondents stabilized on the value of 22.12, which is the average result on the verge of the result "not satisfactory".

Table 2. Results of the whole test and the criteria of the test evaluation.

Result:	Amount of points achieved	Amount of respondents	Percent from the research sample
Completely unsatisfactory	6 - 9 points	19	2.79 %
Not satisfactory	10 – 21 points	148	21.73 %
Average	22 – 25 points	179	26.28 %
Successful	26 – 30 points	214	31.43 %
Very successful	31 – 36 points	121	17.77 %

The second aim was to describe and evaluate the level of care of gifted pupils from the viewpoint of selected characteristics of the teachers (gender, length of practice, focus of education).

First, we focused on the results of the teachers from the viewpoint of gender. We stated a hypothesis H1: The level of care of gifted pupils does not differ based on the teachers' gender. Using the Mann-Whitney U-test, we found out that there is a difference in the male and female teachers' approach to the gifted pupils and therefore, we rejected hypothesis H1. We also attempted to discover which factors of the questionnaire the differences show in. The results of the U-test for all the factors and the questionnaire as a whole are summed up in the following table:

Table 3. Differences in results between teachers' genders.

Compared groups	F1	F2	F3	F4	Total
men & women	<0.001	<0.001	<0.001	<0.001	< 0.001

The grey marked values show the statistically significant differences with all of them being on the surface of significance 0.01. It turned out that the respondents' answers differ in all the factors of the questionnaire depending on the gender, with women achieving higher score.

Another question was whether the level of care of gifted pupils depends on the length of the pedagogues' practice. Hypothesis H2 was stated: The level of care of gifted pupils improves depending on the increasing length of the pedagogues' practice. For the purpose of testing, the length of the pedagogical practice was divided into three basic levels. The beginners were the teachers with less than 5 years of practice (7% of our research sample), the experienced teachers were the teachers with 6 to 22 years of practice (45%). The teachers with more than 23 years of practice were marked as experts (48%). During the testing of the hypothesis, Kruskal-Wallis test and multiple comparison of p-values was used. The results of the test are presented in the following table.

Table 4. Differences in results by the length of the teachers' pedagogical practice.

Compared groups	F1	F2	F3	F4	Total
beginners & experienced	0.019	0.270	0.414	0.253	0.008
beginners & experts	0.004	0.002	0.008	0.026	< 0.001
experienced & experts	1.000	0.002	0.010	0.245	0.014

The grey marked cells show the significant differences on the level of all monitored groups. Although the most differences were found between the beginners and the experts, on the level of the overall results can be said that the level of care of gifted pupils differ significantly among all monitored groups. The discovered differences are in all cases in favor of the more experienced group of respondents, as it can be seen in the following graph. It can therefore be said that the length of the pedagogical practice significantly influences the quality of the care of the gifted and it improves with increasing years of experience in the pedagogical profession.

The teachers also had to state in the questionnaire which area of science (humanities or natural sciences) they are primarily focused on. We formed hypothesis H3: The level of care of gifted pupils does not differ by the prevailing focus of the pedagogues. Mann-White U-test was used for testing the two groups of respondents. The results of the comparison proved a significant difference, as the following table shows.

Table 5. Differences in results by the pedagogues' prevailing focus of education.

Compared groups	F1	F2	F3	F4	Total
humanities & natural sciences	0.801	0.027	0.156	0.029	0.037

The differences manifest in two areas of the questionnaire (F2 and F4) and they are always in favor of the teachers focused on humanities. It shows that in the humanities subjects, the teachers have smaller problems to differentiate the education, they find a bigger space for realization of the activating methods and these teachers also perceive the conditions of the curriculum realization within school more positively. The teachers of natural sciences have probably bigger problems with connecting the contents of a subject with the environment of the education. It is also probable that the results from the viewpoint of the focus of education are partially related to the teachers' gender. While 60% of men from our research sample focus particularly on the area of natural science, 64% of women teach mostly humanities. The teachers focused on natural sciences (men) show a more negative approach to the care of gifted pupils in comparison with the teachers (women) focused on humanities.

4. Summary, discussion and conclusion

The main aim of the research was to describe and evaluate selected forms of pedagogical activities with gifted pupils which teachers from primary schools declared in questionnaires. The first partial goal was to describe and evaluate the level of care of gifted pupils from the viewpoint of the individual items (4 factors). The factor with the best score was F2 "Curriculum differentiation". The teachers do not have bigger problems to differentiate the curriculum and the results of the education. The factor with the worst score was F1, named "The school's support of the gifted pupils". From the viewpoint of the individual items, this factor showed the most contradictory results, which seem as if the pedagogues at schools did not have clearly set up priorities and they were still looking for a way to approach the gifted. Furthermore, the analysis emphasized the worst scored partial items. Most teachers have troubles with modifying the education process, i.e. they use mostly the frontal educational method, they do not create their own innovative didactical materials and they do not respect the pupils' learning styles. Regarding the principles of inclusive education, most teachers declare only in one item of the questionnaire that they purposefully provide the extended education to the gifted pupils only. We can therefore suppose that the teachers overestimated themselves in the other items describing these principles. The analysis also shows that most of the pedagogues are not interested in further education about the issue of the care of gifted pupils and they do not cooperate within the school's academic staff.

We also evaluated the questionnaire as a whole as a part of the first partial aim. We found out that the average score for all the respondents stabilized on the value corresponding with the average result which, however, only slightly differed from the result "not satisfactory". This state testifies about certain deficits in the care of gifted pupils in the Czech Republic. If we compare this result with the aforementioned researches, it is the common worldwide state of the care of gifted pupils in common classes of primary schools.

The second aim was to describe and evaluate the level of care of gifted pupils from the viewpoint of selected characteristics of the teachers (gender, length of practice, focus of education), which is shown in table 6.

Table 6. Overview of the hypotheses for the partial aim of the research.

Hypothesis	Evaluation	Commentary
H1: The level of care of gifted pupils does not differ based on the teachers' gender.	Rejected.	Women show better total results in the questionnaire than men.
H2: The level of care of gifted pupils improves depending on the increasing length of the pedagogues' practice.	Accepted.	Total results are improving with increasing length of practice comparing teachers-beginners, experienced teachers and teachers-experts.
H3: The level of care of gifted pupils does not differ by the prevailing focus of the pedagogues.	Rejected.	Pedagogues focused mainly on humanities manifest better total results than pedagogues with focus on natural sciences.

Rather than confirm our original assumptions, we managed to identify variables in relation with the teachers' characteristics which influence the quality of the care of gifted pupils. They are the teachers' gender,

length of pedagogical practice and the main focus of education. Women declare better level of care of gifted pupils which provides a proof of their bigger interest in the monitored issue. The level of care of gifted pupils increases with the teachers' length of practice, which is typical even for other research findings (e.g. Vašutová, 2004). We do not identify with the findings of other professionals (Laznibatová, 2001) that the most suitable candidates for the work with gifted pupils are young teachers, fresh graduates out of pedagogical faculties.

Teachers of humanities manifested significantly higher level of the care of gifted pupils which we explain by the existence of higher number of issues in humanities which develop affective goals of education and therefore offer bigger space for using innovated didactical strategies. If the quality of the care of gifted pupils is related to the pupils' motivation, even other researches from the identical areas come to the finding that the pupils are less motivated for the natural sciences (Škrabánková & Trna, 2013).

After we presented our findings, it is also needed to point out the limitations connected with the conducted research. The biggest limitation which was manifesting during the whole research is, in our opinion, the simplification of the pedagogical reality into 3 possible answers evaluated with 0, 1 and 2 points and the artificial metrisation of this data. We are aware that all the measuring in education and also in other areas, is considered to be relative, simplifying and serves the paradigm which we do through the evaluation of the teachers' answers. Another problem was that our questionnaire was focused only on selected aspects of pedagogical work with gifted pupils, which were related to the curriculum modification and inclusive education. Furthermore, despite the big amount of validly filled in questionnaires (681) the research cannot be considered to be large area survey and the results cannot be generalized for the whole Czech Republic.

Another limitation of the research is connected with the selection of the research sample. The teachers who voluntarily participated in the research manifested a positive interest in the researched issue. We suppose that with a neutral relationship to the issue, the teachers would hardly dedicate their free time to filling in the questionnaire. The respondent sample is therefore not considered to be comparable with the general teacher population but rather to a positive deviation from the average. For this reason, the results of the research may appear better than the real situation of the care of gifted pupils.

We are also aware that the teachers may have described the application of their educational strategies in the questionnaire to be better than it is in reality. On the other hand, we can look at the results of the research not only from the viewpoint of what educational strategies the teachers use but also which strategies the teachers think are suitable for the development of the pupils' giftedness. For this reason, we consider a subsequent research where the research data would come from the direct observation of the education process by a trained observer.

The overall results of our research therefore did not prove a very quality level of the care of gifted pupils. It is therefore necessary to offer the practicing teachers more suitable conditions for their education processes and motivate them for their further education.

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