

Psychological and Pedagogical Problems of Development of Talent Among Schoolchildren

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ABSTRACT

Topicality of the problem under study is driven by the need to implement a mission of a modern state to create an effective education system, providing conditions for teaching and development of gifted children. On the other hand, it is based on the insufficient study of factors determining the updating of psychological and pedagogical problems relating to the development of talent among pupils of comprehensive secondary schools. The aim of the article is to produce the theoretical analysis of existing methodological approaches to the problem of talent in the psychological and pedagogical literature and the analysis of the results of the study carried out among administrative and pedagogical staff of educational organizations. The leading study method of the aforementioned problem is questionnaire, which makes it possible, using an experiment and research approach, to reveal factors determining the updating of psychological and pedagogical problems relating to the development of talent among pupils of comprehensive secondary schools. The article outlines factors received during the study, determining the updating of psychological and pedagogical problems relating to the development of talent among pupils of comprehensive secondary schools - terminological disorder in defining the basic notion of "talent", lack of objective criteria and indices to diagnose talent among children; lack of research of mechanisms to develop talent, shortage of effective models of interaction among higher vocational and general education establishments to implement educational programmes, aimed at developing talent among schoolchildren. The materials of the article can be used by administrative and pedagogical staff to draw up and introduce models of interaction among higher vocational and general education establishments to implement educational programmes, aimed at developing talent among schoolchildren.

KEYWORDS

Children's talent; development of talent; diagnosis of talent; talent; theories of talent

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Introduction

The studying of the phenomenon of a gifted person as a key factor, determining the fundamental changes in the cultural, scientific, political and economic sectors of life of a society, is becoming more topical and finds its reflection in modern psychological and pedagogical studies (Bogoyavlenskaya, 2002; Popova, 2009; Shumakova, 2004).

At the same time, integrative problems of development of talent can also be seen at the political level, which is regarded as concentrated expression of not only economic, but also of different social and cultural, and religious conditions and tendencies. The concept of a national system to discover and develop new talents, approved by the Russian president in April 2012, says that “modern economy more and more needs specialists possessing profound knowledge and enjoying innovations, and that is why work aimed at finding and developing young talents, based on the best historical experience and the most successful modern examples, is an important element needed to improve the Russian economy”. At the same time, it is stressed that “every person is talented. A person’s success in many ways depends on whether his talent will be discovered and whether he will get a chance to use it. A fulfilled opportunity of every person to display and use his talent, succeed in his profession affects the quality of life, makes the economic growth possible and strengthens democratic institutions”. The concept, however, admits that gifted school graduates “not always find themselves in adult life. In connection with this, the aim to secure a “social lift” for talented young people amid changing and competitive economy is becoming a priority. The mission of the state on finding and supporting gifted children is seen in creating an effective education system, providing conditions for studying, education and development of abilities of all children and young people, their further self-fulfillment regardless of the place they live, a social status and financial possibilities of a family”. Modern trends of social development set new goals to the education system, namely paying of more attention to talented children rather than to “mediocre” pupils, focusing on discovering and developing their abilities during education (Concept, 2012; Dubrovitskaya & Krylova, 2010).

The international experience of regional and localized innovation centres shows that modern schools should pay more attention to the development of adaptability and flexibility of schoolchildren. The education system has got new goals, such as to encourage pupils to be more responsible to education, to develop critical thinking and teach them to solve difficult problems. Living in an information-based society one should possess skills to get and organize information, be able to determine its relevancy and make connections between the theory and practice (Bogoyavlenskaya, 2002).

Studying the performance of gifted pupils, the technology is a necessary tool in providing educational programmes to develop special needs of gifted pupils (Shcheblanova, 2004). It is not surprising that, as the Sverdlovsk Region education minister Yu. I. Biktuganov (2011) said, “Sverdlovsk Region is to pursue a plan to provide accessible and free education to everybody, giving priority to gifted children” (Biktuganov & Igoshev, 2011). The aforementioned problem is not only of regional, but also of national importance. D.A. Medvedev believes that “it is needed to create a special system to support already developed talented schoolchildren, as well as a general environment to enable

every child to display and develop his abilities, to stimulate and reveal achievements of gifted children” (Misharin, 2011).

It is noteworthy that an experiment and research approach has not so far been used to detect factors determining the updating of psychological and pedagogical problems relating to the development of talent among pupils of comprehensive secondary schools. The aforementioned problems will be considered in the study under discussion.

Materials and Methods

Research methods

The following methods were used to carry out the research: theoretical (analysis; synthesis; specification; generalization); diagnostic (questionnaire; interviewing); empirical (studying of experience of work of educational organizations; regulatory and teaching documents; pedagogical observation); experimental (ascertaining experiment); methods of mathematical statistics.

Experimental resources of the research

Five comprehensive secondary schools were used as experimental resources of the research – gymnasium № 9 and № 94 (Yekaterinburg), lyceum № 110 (Yekaterinburg), gymnasium № 83 (Tyumen), school № 42 (Kurgan) and two higher educational establishments – Russian State Vocational Pedagogical University (Yekaterinburg) and Tyumen State Oil and Gas University (Tyumen).

Research stages

The problem was studied in three stages:

- the first stage dealt with the theoretical analysis of existing methodological approaches of psychological and pedagogical literature; the problem, aim and research methods were determined and a plan of experimental research was drawn up;
- the second stage focused on performing experimental and searching work among administrative and pedagogical staff of educational organizations; conclusions, drawn during the searching work, were analyzed, checked and confirmed;
- the aim of the third stage was to finish experimental and searching work, confirm theoretical and practical conclusions, generalize and systematize the results.

Results

No due attention was paid to scientific studies of children and teenagers’ talent and elaboration of psychological and pedagogical points relating to teaching and education of outstanding children in the Soviet period in our country. For 70 years, in line with dominated ideology in teaching practice, it has been considered that gifted children should not be singled out, that everybody is equal and that any qualities can be “formed” in every child. The notions of “makings” and “talent” were seen as something idealistic and harmful. The situation in psychology also depended on isolation of our science from the foreign one. However, it should be mentioned that some psychological works on that topic were written in the Soviet period. Only in the last years the problem of

differences among children by their talent has “come out of the shadow” and become one of the most interesting (Radetskaya, 2010; Khrustaleva, 2005).

However, apart from numerous psychological studies of individual cases of the phenomenon of talent among different groups of people, native scientists have not so far carried out large-scale studies of problems of psychological and pedagogical determinants of development of talent among schoolchildren.

In general, the given point was confirmed by studies conducted by specialists of the scientific and educational centre for development of talent among schoolchildren, students and young specialists at the Russian State Vocational Pedagogical University with the support of the Urals branch of the Russian education academy in 2011. About 639 administrative and pedagogical employees representing five comprehensive secondary schools: gymnasium № 9 and № 94 (Yekaterinburg), lyceum № 110 (Yekaterinburg), gymnasium № 83 (Tyumen), school № 42 (Kurgan) and two higher educational establishments: Russian State Vocational Pedagogical University (Yekaterinburg) and Tyumen State Oil and Gas University (Tyumen) took part in the study. Practically all administrative employees of the higher educational establishments and schools perform the functions of a manager and a teacher. Analyzing the received results, we, in many cases, will call them “teachers” (speaking about workers of higher educational establishments) or “school teachers” (speaking about schools).

Thus, about 96,846% of the surveyed school teachers said that “problems relating to the development of talent among schoolchildren had not been studied” in our region. The result among the polled scientists and teachers of the higher educational establishments was 95,679%. Taking into account that in the applied sociology the differences in the results, equal to a tenth of a per cent with the sampled population of less than 1000 people, are considered statistically insignificant, we decided to round the results to the whole numbers. In this case it is 97 and 96%, respectively.

About 97% of workers of schools and 93% of higher educational establishments said that “problems relating to the diagnosis of development of talent among schoolchildren had not been studied” in our region.

At the same time, 91% and 86% of respondents, respectively, believe that “there are regional peculiarities in the displaying of talent among schoolchildren”.

Only 2% of polled workers of schools said that “teachers of our region know theoretical works on development of talent among schoolchildren well”. The result at the higher educational establishments was 5%.

About 7% of respondents at schools and 6% at higher educational establishments pointed out that “teachers of our region know practical works on development of talent among schoolchildren well”.

Thanks to the development of theoretical and applied psychology in the last years, 16% of school teachers and 18% of teachers of higher educational establishments said that “teachers of our region know diagnostic methods to discover talent among schoolchildren well”.

About 11% and 10% of respondents, respectively, said that “teachers of our region use diagnostic methods to discover talent among schoolchildren in their professional activities”.

About 9% of representatives of schools and 12% of higher educational establishments stressed that “there is a system of development of talent among schoolchildren in our region”.

The study revealed a contradictory situation on the aforementioned problem. About 91% representatives of schools and 76% of higher educational establishments said that “there is a system of development of talent among schoolchildren in musical arts in our region”. About 57% and 48% of respondents, respectively, believe that “there is a system of development of talent among schoolchildren in painting in our region”. It is worth mentioning, that during all times of the Soviet government and even during the periods of “dictatorship of the proletariat” and the “cult of personality”, when any manifestations of free creative individualism in the humanitarian or even in the scientific sectors were toughly suppressed, the discovery and development of talent among schoolchildren in musical arts and artistic culture were officially recognized and encouraged, although within limited ideology-driven frameworks. There was a multi-level system of educational establishments which admitted children on the basis of a clear professional diagnosis of a level of needed abilities, which can be developed to the level of talent. For example, the system of successive educational programmes of musical schools, musical colleges and conservatories is based on that approach (Bagadirova & Leontyeva, 2014; Leytes, 2003).

The study showed that only 6% and 7% of respondents think that “there is a system of development of talent among schoolchildren in humanitarian disciplines in our region”. In physics the results stand at 4% and 9%, and in the chemical and biological disciplines at 5% and 7%, respectively.

The absolute majority of polled specialists, 97% and 92% respectively, said that “interaction of higher educational establishments and schools should be included in the system of development of talent among schoolchildren”.

At the same time only 3% and 8% of respondents pointed out that “there is a system of interaction among higher educational establishments and schools to develop talent among schoolchildren in humanitarian disciplines in their region”. About 4% and 8% said they had such a system in physics. Speaking about the chemical and biological disciplines, the result was at 7% and 9%, respectively.

About 18% of specialists of schools and 15% of higher educational establishments believe that “there is a system of Olympiads and competitions among pupils in humanitarian disciplines in the region”. In physics the results were 17% and 15%, and in the chemical and biological disciplines 18% and 14%, respectively.

Replying to a question on the most effective levels of interaction of pupils with teachers of higher educational establishments, about 74% workers of schools said that it was “individual interaction”, against 48% at higher educational establishments; “group interaction (small groups)” were mentioned by 81% and 76% of respondents; “agreement interaction of educational establishments (school – university) – 81% and 84%, “the school-university relations should be supported by a municipality’s education directorate” – 79% and 77 %; “the school-university relations should be supported by a region’s education ministry” – 79% and 77%; “the school-university relations should be inter-regional and supported at the level of a federal district” – 46% and 51%;

“the school-university relations should be supported by the federal authorities” – 74% and 68%; other respondents suggested either single in popularity levels of interaction, or failed to provide an answer.

About 66% of representatives of schools and 73% of higher educational establishments said that “Olympids” should be the most widely-spread form of interaction with a teacher of a higher education establishment; “special seminars” – 68% and 71%, “lectures” – 67% and 78%, “problem-related lectures” – 71% and 72%; “consultations” – 64% and 73%, “online consultations” – 67% and 79%; “scientific conferences” – 66% and 72%; “online conferences” – 67% and 71%; “business games” – 71% and 63%; “round-table discussions” – 74% and 68%; “scientific discussions” – 69% and 71%.

A problem on “models of interaction of comprehensive secondary schools with higher educational establishments” aroused a special interest. One could suggest a number of options of models of social and pedagogical interaction between higher educational establishments and schools.

About 83% of administrative and pedagogical employees of schools and 79% of higher educational establishments said that higher educational establishments should deepen “educational training using a special-purpose site of a school”.

About 83% and 82% of respondents, respectively, stressed that higher educational establishments should provide “pre-professional project specific training at school (young physicist, young biologist)”.

About 64% and 91% of respondents said that “specialized comprehensive schools for gifted children” should work at higher educational establishments.

About 89% and 92% of respondents believe that a higher educational establishment may be a regional centre to work with talented children to hold Olympiads, projects, practical training at universities during holidays, topic lectures and so on.

About 93% and 94% of specialists mentioned effectiveness of distance interaction (online consultations, online lectures).

About 67% and 29% teachers spoke about “interaction of pupils with academic teaching staff by correspondence (individualized correspondence)”.

About 97% and 93% of respondents mentioned the “all-round interaction”.

About 89% and 94% of respondents said that all models of development of talent among schoolchildren should “include an opportunity to use online technologies”.

The majority of respondents – 93% and 89% said that in their region “teachers of musical disciplines know well what talent in that sector means”. The same is the result among teachers of painting in the region – 61% and 56%.

Speaking about humanitarian disciplines, the results are 10 and 7 times lower – 6% and 8%, than among teachers of painting, and 15,5 and 11,1 times lower, than among teachers of music. In physics 9% and 12% of specialists “know well what talent in that sector means”. The results of teachers of chemistry and biology is 9% and 12%.

The provided information updates the phenomenological study of talent among schoolchildren.

Discussions

In foreign studies the problem of talent became topical as an object of consistent attention of scientists only at the beginning of the XIX century when that phenomenon was connected with art. Consequently, talents were looked for in art, but not in science and moreover not in practical activities (Teplov, 1982). Talent was thought to be the highest degree of abilities, with genius going after it.

The next stage relating to the notion of talent was formed at the beginning of the XX century. An intensive development of the scientific and technical revolution led to the fact that the highest degree of talent was connected mainly with scientific thinking. Science replaced art. Up until 1960s a psychometric method prevailed in studies and talent was understood as the highest level of intellectual development. Distinguishing between two types of thinking – cognitive and divergent – greatly contributed to the understanding of talent. Since that time a decision has been made to divide talent into “general” and “creative”. General talent is based on spacious intellect and creative talent is based on creativity. A great number of works on development of two those areas appears (Bagadirova & Leontyeva, 2014; Khrustaleva, 2005).

The modern stage relating to the development of the problem of talent brings ideas on complexity and multidimensionality of that phenomenon. Many researchers stick to the multifactorial model of talent, distinguishing cognitive, personal and social elements (Bogoyavlenskaya, 2002). In the last decades, studies have rapidly moved to the education sector, dealing with different aspects of diagnosis and assessment of talent, teaching of gifted children, psychological help to talented, but not making progress children, and training of teachers for gifted children (Shcheblanova, 2004).

Studies on the problem of talent are presented by different aspects in the native psychology of the XX century. One can see different directions relating to the updating of the problems. Specialists traditionally focus on a number of stages in its development (Leytes, 2003; Radetskaya, 2010; Teplov, 1982; Khrustaleva, 2005; Shadrikov, 1996; Shcheblanova, 2004):

The first stage (1920-1930s) is connected with psychometric changes of talent, which was understood as the highest level of intellect. The empiric approach to studying of talent is believed to be unique. It was also a period when first attempts to give a wider definition of talent appeared, including not only cognitive abilities, but also personality, emotions and will.

In 1940-1950s the psychology of individual differences suffered from regular attacks for ideological and political reasons. The psychology of talent is evolving inside the psychology of abilities and is seen as a theoretical problem in the first place. Works of that period formed the basis for the psychology of abilities and determined areas of further studying of the problem.

Studies on displaying of talent at an early age dominated in 1960-1970s. Talent was divided into general (mental) and special (artistic, musical). There were also two ways of developing it at an early age: wunderkind, connected with early and rapid displaying of abilities, and non-wunderkind. Different aspects of

mathematical, artistic, musical and other kinds of talent were actively studied in those and following years.

Since the middle of 1980s, the modern stage of studying talent has started to form thanks to the spontaneous liberalization and, partly, to democratization, transition from ideological monism to pluralism and to internationalization not only in the public and political, but also in the scientific life. The period is characterized by a system approach, which is implemented from the perspective of the theory of functional systems, the all-round approach, the system and style concept of talent and the theory of integral studying of individuality.

A rather obvious variety of interpretations of the notion of “talent” proves the complexity and controversy of the problem amid the natural methodological pluralism. At present there are a number of approaches to its definition. Here are some of them, presented by B.M. Teplov (1982), N.S. Leytes (2003), T.M. Khrustaleva (2005):

Talent is a high level of development of abilities, a step between abilities and genius (abilities – talent – genius). Initially, talent was seen only in relation to adults and then to children and teenagers.

Talent is a qualitative individuality of abilities.

Talent is a synonym of a general ability of a person. In this case general talent is understood as the whole of all gifts of a person from which productivity of his activities depend.

Talent is the whole of makings, natural gifts, a specific feature of the degree of manifestation and individuality of natural preconditions of abilities.

Talent is an integral specific feature, unification of abilities into a system. Talent is not only various abilities to some professional activity, but is an integral system of such abilities.

Talent is readiness for development in different directions and is the basis for emergence and development of special abilities in various kinds of public and labour activities of a person. Such anticipation of the future activities is called potential abilities. This approach is the closest to the notion of talent, based on the theory of integral individuality of a person.

The notion of talent as a potential, anticipation, psychological basis for the development of abilities in various kinds of activities is the most popular among researchers.

Modern scientific views on talent and peculiarities of dynamics of its manifestations in childhood and adolescence enable specialists to claim that manifestations of talent in childhood are extremely different and there are a lot more gifted children in percentage terms, than it was expected as part of the psychometric concept of talent, – up to 30% of age population instead of 3-4% as it was considered earlier.

In particular, different kinds of talent, based on dozens of different abilities (theory of “variety of intellects”, theory of competence as manifestation of dozens of kinds of talent) were described. Moreover, the existence of “potential” and

“hidden” form of talent was demonstrated (Radetskaya, 2010; Khrustaleva, 2005).

The idea that you can discover intellectual talent of a child with the help of traditional means of psychological diagnosis in conditions of one-off testing demonstrated its failure. However, more and more scientists share a viewpoint that the procedure of identifying intellectually gifted children should be all-round and, along with tests, include qualitative methods and be carried out in the form of a psychological and pedagogical monitoring. At the same time one should take into account a fact that tests of intellect by no means always susceptible to manifestations of intellectual talent. On the one hand, some gifted children, whose development, according to psychologists and teachers, is “waning”, tests of intellect do not show any significant changes in the level of intellect (Matyushkin, 1989). On the other hand, some teenagers with good results for the Raven test show a low level of understanding of educational material and a low educational activity (Shcheblanova, 2004).

Finally, the idea that intellectual talent is a simple psychological quality which is limited to the level of formedness of rather simple cognitive abilities. Such a narrow understanding of the nature of intellectual talent does not meet modern scientific data. Intellectual talent is a complex, multidimensional system of psychological resources, which cannot be limited to a set of cognitive abilities, or to some single cognitive ability. It comprises not only cognitive, but also motivational, personal, value and other individual and psychological qualities of a person.

Thus, if you return to the two main questions, then the answer is the following: the essence of the problem is in the specific character of children’s talent compared to the specific character of talent of an adult. The talent of a child and an adult is based on different psychological resources. Consequently, we should reword the problem of gifted children and consider it from another point of view: what mechanisms and factors of development of intellectual talent from the perspective of turning children’s talent into talent of an adult are (or, if we approach this problem pragmatically, what conditions are needed to turn as many children as possible – gifted and not gifted – into gifted adults (Khrustaleva, 2005).

Conclusion

Summing up the result of the conducted study, it should be noted that psychological and pedagogical problems relating to the development of talent are becoming topical due to a number of interrelated factors. Including the fact that in the native and foreign theoretical and practical pedagogics:

- there is still terminological disorder in giving the definition of “talent”. There are more than 100 definitions of the notion among psychologists and teachers;
- there are still no clear objective criteria and indices to diagnose and monitor talent among schoolchildren;
- mechanisms of development of talent among children and teenagers, as well as determinants of that process, have not been studied;

- there is no system of psychological and pedagogical assistance aimed at developing talent among schoolchildren at general education establishments;
 - there are no effective models of interaction of higher vocational and general education establishments to implement programmes of senior school, aimed at developing talent among schoolchildren;
 - there is no system of models of interaction of higher vocational and general education establishments, aimed at the gradual and progressive development of talent among schoolchildren;
 - efforts aimed at developing talent among schoolchildren lack system, with regard to the development of a definite personality of a schoolchild;
 - there is no system of methodical assistance of work of teachers of higher vocational and general education establishments, aimed at the gradual and progressive development of talent among schoolchildren;
- projects, aimed at providing individual training of gifted children, do not help them successfully socialize at school or other collectives.

Recommendations

The materials of the article can be useful to administrative staff and teachers of comprehensive secondary schools, administrative and academic staff of higher educational establishments, drawing up and implementing programmes of psychological and pedagogical assistance of activities with gifted students.

Disclosure statement

No potential conflict of interest was reported by the authors.

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References

- Bagadirova, S. K. & Leontyeva, A. V. (2014) History of psychology: study guide. Moscow: Direkt-Media. 216p.
- Biktuganov, Yu. I. & Igoshev, B. M. (2011) President's theses. *National forecast*, special edition, 2, 11-14.
- Bogoyavlenskaya, D. B. (2002) Psychology of artistic abilities: study guide for students of higher educational establishments. Moscow: "Akademiya" publishing center. 320p.
- Concept of a national system of discovering and development of young talents. A set of measures to implement the concept a national system of discovering and development of young talents for 2015-2020. (2012, April 3). KonsultantPlus. Retrieved July 22, 2016 from <http://edu53.ru/np-includes/upload/2012/09/10/2837.pdf>.
- Dubrovitskaya, T. D. & Krylova, A. V. (2010) Psychological basic principles of overcoming deprivation among students in educational process. *Education and science. News of the Urals branch of the Russian education academy*, 10 (78), 71-78.
- Khrustaleva, T. M. (2005) Psychological study of pedagogical talent at a school age. *World of psychology*, 3, 170-176.
- Leytes, N. S. (2003) Age-related talent and individual differences: selected works. Moscow: Moscow Institute of Psychology and Sociology. 464p.



- Matyushkin, A. M. (1989) Concept of artistic talent. *Problems of psychology*, 6, 29-33.
- Misharin, A. S. (2011) New school – new economy. *National forecast*, special edition, 3, 10-11.
- Popova, L. V. (2009) Educational programmers for gifted children in European countries. *Psychological science and education*, 4, 101-114.
- Radetskaya, O. G. (2010) Psychology of talent: educational and practical guide. Moscow: publishing centre of Eurasian Open Institute. 374p.
- Shadrikov, V. D. (1996) Psychology of activity and human abilities: study guide. Moscow: Logos. 320p.
- Shcheblanova, E. I. (2004) Psychological diagnosis of talent among schoolchildren: problems, methods, research results and practice. Moscow: Moscow Institute of Psychology and Sociology. 368p.
- Shumakova, N. B. (2004) Teaching and development of gifted children. Moscow: Moscow Institute of Psychology and Sociology. 336p.
- Teplov, B. M. (1982) Psychology of individual differences. Moscow: publishing centre of Moscow State University. 404p.