Assessment of student’s potential based on the data concerning productivity and psychological comfort of education

Evaluación del potencial del alumno en base a datos relativos a productividad y confort psicológico educativos

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Received: 16/12/2017 • Approved: 21/12/2017

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ABSTRACT:

Introduction. The purpose of the article is to present such notions as "giftedness", "talent" and "genius" as sublevels of the student’s highest capacity level. The authors review the approaches of Russian and foreign researchers to the issue of giftedness in a broad sense of the word (regarded as gift, high personal potential).

Research Methods. The authors propose a complex of pedagogical measures which allow to determine the current capacity level of the student. The functions of the teacher and the school psychologist are described, as well as factors underlying the level model: academic productivity and emotional condition.

Research Results: It is found out that intellectual activity does not make a gifted child experience negative emotions or strain his/her willpower. In the main part of the article the giftedness is interpreted in a narrow sense, according to the proposed model: as a sublevel which...


1. Introduction

Commenting on heightened potential (intellectual and/or artistic), teachers and psychologists resort to such notions as “giftedness”, “talent” and “genius”. The last one is not popular in this context. Being global and ambiguous, it is generally studied by other sciences – philosophy and culturology. The talent, in its turn, is regarded as “a notion, which is more “worldly” than scientific, since there are no theories and methods that could reveal it” (Zinchenko & Meshcheryakov, 2009). The noun “giftedness” may be called a term with certain reserves. The Big Psychological Dictionary and the Psychological Dictionary interpret giftedness as a level of ability, while the Dictionary of Practicing Psychologist sees it as the assessment of such a level (Kondakov, 2000; Golovin, 2001; Zinchenko & Meshcheryakov, 2009). The first source gives reviews of general abilities, while the other two pay attention to special ones (Opt. cit.). Nevertheless, most dictionaries describe the same thing: a set of abilities that makes it possible to predict considerable achievements in a certain field of activity. These are not high marks or diplomas of national competitions, but professional success. A gifted student is expected to become a productive worker and respectable society member.

It should be noted that adult success is not always preceded by high school results. Some children and adolescents are very gifted and promising, but their marks leave much to be desired. The authors of “Giftedness: A Functional Conception” suppose that success is just one of the levels relating to one of the qualities characterizing one of the aspects of a gifted child’s personality – the instrumental aspect (Bogoyavlenskaya et al., 2003). The cult of success is regarded by V. I. Panov as the main drawback of modern approaches aimed to reveal giftedness in children and adolescents (Panov, 2001). The author recommends focusing on the processual component, which includes two groups of elements: instrumental (ways of achieving educational goals) and motivational (what inspires students to devote themselves to this or that activity). In the second group a particular attention is given to such factors as intense need for cognition and keen interest in certain occupations or kinds of activity (Bogoyavlenskaya et al., 2003, p. 16). What the authors mean is mostly not psychological dependence but strong positive emotions. This issue becomes an object of detailed research in other works by these scientists. The gifted children are claimed to experience “a pleasure of thinking, a joy of
T. O. Gordeyeva and E. A. Shepeleva regard positive emotions caused by cognitive process as an indispensable component of internal motivation (Gordeyeva & Shepeleva, 2011). However, in some cases a child is motivated by something else – for example, by sense of responsibility. This boy or girl is not searching for new knowledge – his or her aim is to avoid “pangs of remorse”. Therefore, when such students achieve success, they do not commonly feel positive emotions. Lack of negative ones – that is the result. Fulfilling his/her moral obligation, a person perceives it as a norm, as something hard and challenging (at times) but perfectly natural.

V. S. Yurkevich supposes that such internal motivation brings more harm than good (Yurkevich, 2000). Overall, she does not find sense of responsibility useless or superfluous. It is regarded as necessary for everyday life with its typical situations. A child must say “please” and “thank you”, tidy the room, inform the parents about his/her outdoor plans, etc. However, V. S. Yurkevich points out that the need for cognition is fundamentally different: we need new information from the earliest age, like we need air and food. A child’s indifference to the surrounding reality may come from a serious illness, mental or physical. The author indicates that parents usually do not pay attention to this symptom, interpreting it as positive restraint and complaisance. Otherwise, passion for life, fascination with it may be mistreated as ADHD.

For the educational process, V. S. Yurkevich proposes a method of mind-developing comfort: a child solves quite difficult tasks, which make him/her experience intense positive emotions and seek new challenges (Yurkevich, 1997). Besides, the researcher describes a method of mind-developing discomfort, which can be used only by specially trained psychologists. According to this approach, a gifted student should work with tasks which are excessive, beyond his/her current abilities. Most children cry, feel anger, shame and despair. The author notes that the proposed method helps to improve willpower, prepares a future adult for inevitable failures. N. B. Brezanskaya criticizes this method for its focus on external motivation (Bogoyavlenskaya & Bogoyavlenskaya, 2005). The student is aimed not at his/her personal ideal, but at the result, which is approved or even imposed by adults: high marks, competition diplomas, friendship with certain classmates, and so on. The author also emphasizes the method’s practical inefficiency: “when a child leaves an elite school and enters a real social space, which requires creativeness as a norm of adult life, such giftedness is likely to cause distress and degradation”. For the gifted children intellectual activity is joy, not overcoming. Forcing themselves to think, such boys and girls violate their nature...

According to Yu. D. Babayeva, many gifted children are “afraid of creative work” (Opt. cit.). The authors of this article – together with D. B. Bogoyavlenskaya, V. T. Kudryavczev and A. S. Obukhov – suppose that such fear is more typical of children with average abilities, not giftedness. In our opinion, a gifted child may be afraid of some negative factors linked with his/her non-ordinariness (bullying, adults’ disappointment, etc.). However, moments of inspiration save him/her from these fears, grounded or not.

We do not find it surprising that the attempts to associate creativity with negative emotions have little support within the scientific community. Giftedness guarantees neither happiness, nor psychological comfort: a child may suffer from a chronic disease, rude classmates, some school subjects. However, his/her intellectual or artistic hobby is a rich source of positive emotions: interest, joy, pleasant surprise. In our classification, giftedness is a sublevel of the student’s high capacity level. Such students show positive academic results in a subject and enjoy learning it.

2. Research Methods
A new two-factor model of school students’ capacity levels is proposed. It considers the academic productivity and emotional condition of children taking part in the study process. Each basic level reflects the correlation of these two factors (Samokhin, 2015; Samokhin, Sokolova & Sergeyeva, 2016).

The teacher decides whether the required result is achieved or not and writes down the grade (from “A” to “F”) in the register. During the term, the teacher can estimate the students’ progress with any intervals, but it is not desirable to exceed a two-week period (with primary school being an exception).

Each boy or girl should have a special notebook to record the emotions which they feel studying a subject. The children can make their notes the way they like it – for example, using a ten-point scale or a short verbal description. It is recommended to record the emotions twice a day: after the lesson and after doing the homework. Before the students start doing this, they should be instructed by a school psychologist, who has to emphasize that an attitude to the subject – not to a person in charge of it – is relevant. At the end of the term, the notebooks are given to the teacher, who is now able to make preliminary conclusions about academic results and psychological comfort of each student. If necessary, some pedagogical measures can be taken.

The data about a supposed capacity level is available for the teacher and the school administration. In certain cases, this information can be also revealed to the student’s parents, while the student learns it only after receiving a school-leaving certificate (until this moment, the results are not considered ultimate). Then a person may take these data into consideration when choosing his / her future area of higher education.

Perhaps in the future (probably not the nearest), there will be a device reflecting the emotional tone of the sensations (pleasant / unpleasant) as a physical unit. This device can be used along with the described method. The advantage is obvious: the provision of objective information about the child’s emotional state. A serious drawback is the lack of information about the source of sensations. The gauge will not show what caused the emotions experienced within a certain period – only the educational process or something else. Therefore, it seems reasonable to use such a device only as an additional, more precise means of evaluation. In our opinion, such a gauge can be based on V. Minkin’s vibraimage technology (Minkin, 2007). It is also preferable to pay attention to the "psychophysiometer" developed by a Novgorod student Sergei Nora (in case of successful completion) (Melnikova, 2014).

We single out four main capacity levels: low level, inclination, ability and high level. Each of them is characterized by a certain ratio of productivity (presence or absence of acceptable results in the academic subject) and psychological comfort (prevalence of positive or negative emotions in the educational process). The most general information is presented in the table below.

<table>
<thead>
<tr>
<th>STUDENT’S CAPACITY LEVEL</th>
<th>Productivity of his/her activity</th>
<th>His/her psychological comfort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low level</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Inclination</td>
<td>–</td>
<td>+</td>
</tr>
<tr>
<td>Ability</td>
<td>+</td>
<td>–</td>
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<tr>
<td>High level</td>
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</tbody>
</table>
3. Research results

In this paper we reviewed the student’s high capacity level and its sublevels: giftedness, talent and genius. Such students show positive academic results in a subject and enjoy learning it. In our opinion, the word “gift” is a perfect denotation of high personal potential – intellectual or artistic. For a gifted person, studying is not labour but pleasure; not obligation but celebration; not a promise of high achievements, but almost a guarantee. According to our classification, any abilities – average or very advanced – are equally far from giftedness. An able student copes with the educational process, while his emotional attitude to the subject is neutral or negative. High ability leads to diplomas and prizes, but not joy, too. A gifted child, contrary to an able one, can be a winner of international competitions or an ordinary “D”-student. All that matters is the presence of two factors: positive results in a subject (above “F”) and predominance of good emotions in the learning process.

As we can see from Table 1, the high capacity level includes three sublevels: giftedness, talent and genius. Let’s review them in detail.

Figuratively speaking, giftedness is not a diamond castle, but precious ore hidden in the depths of a young soul. The teacher has to be a prospector, a gem cutter and an architect. In our opinion, this multifunctionality is the only way to reveal such a student’s potential. Unfortunately, some children are gifted for nothing within the school curriculum. However, it would be better for a teacher to abstract himself/herself from this possibility – in full accordance with the principles of humanistic education.

Some authors advise to measure giftedness via methods which do not require any pedagogical skills. For example, Grand PhD in Biology S. V. Savelyev advises to use (but first to invent!) “cerebral sorting” – a technology of measuring a child’s potential through scanning his/her brain (Savelyev, 2012). Such a device was once compared with the Sorting Hat from Harry Potter series (Savelyev & Vedeneyeva, 2012). Being put on a teenager’s head, the hat reads his/her mind and sends him/her to one of the Houses (magic faculties). We find this analogy quite accurate – partly due to inexistence of both objects. What really exists is pedagogical mastership.

We read some interesting information about Zhores Alferov, the winner of Nobel Prize in Physics (Alferov, 2012). Before high school he was more interested in Chemistry. His fascination with Physics began later, with Yakov Meltzerzon as a new teacher. According to Alferov, this person adored the subject and “infected” children with his passion. “He could not imagine that it is possible not to be interested in Physics”. The teacher faced a serious problem: the school did not have equipment for laboratory work. Without such lessons, it was very different to show the science at its best, but Melczerzon did it. As a real master.

It is common knowledge that the teacher’s personality is very important – for example, professional charm, which sometimes cannot be explained by personal strengths and peculiarities. In rare cases, several tiny summands (little pedagogical experience, low enthusiasm, etc.) give an unexpectedly considerable sum. The charm may also win due to a strongly pronounced drawback (propensity to cynical jokes, frequent digressions from the subject, etc.) or lose due to a positive quality (kindness, sincerity, etc.). Maybe every teacher should search for appropriate personal image, not high morality. The criteria are the students’ results and emotions.

However, even the most charming teacher has to be aware of pedagogical methods. They are quite numerous, but we would comment on two of them, which seem especially important for
Regulation of efforts.
Let us imagine a group with able “A”-students of two types – those who study the whole day to satisfy their parents’ strict requirements, and bright but indifferent ones, who understand a new material without efforts and pleasure. We suppose that in the first case mothers and fathers should lower their standards. Probably, their children will go down from “A-s” to “B-s”, but will enjoy the subject. As for the second case, these able students can become gifted fulfilling more difficult intellectual tasks (taken from a university textbook or collection of competition puzzles).

Interdisciplinary approach.
Now let us imagine a student with ability for Mathematics and inclination for Literature (according to Table 1, inclination is a capacity level at which a student enjoys the subject but fails in it). The teacher may advise him/her some fiction connected with algebra or geometry: “An Ivory Plate” by Alexander Kazantsev, “Divison by Zero” by Ted Chiang, etc. A little child will take more advantage of such books as Grigoriy Oster’s “Unconventional Mathematical Exercises” or Vladimir Levshin’s “Three Days in Karlikania”.

Many children and adolescents feel inspired after a simple praise. However, we do not regard it as a key method, since it commonly creates external motivation – weak and unstable. When praises subside or vanish, such a student might lose his/her giftedness and even fall to the low capacity level (no results and no pleasure).

In adult life, a correctly formed giftedness is practically indistinguishable from talent. However, the difference is rather substantial in school years.

“Talents they need help” – says Lev Ozerov, a Soviet poet. We do not support this point of view. In our opinion, primary and secondary education should help low-level students and not disturb talented ones. Talent may be metaphorically compared with mutual love at first sight. A student falls in love with a school subject, and it loves him/her back... It would be preferable to note how many children study with outcome and pleasure. If it is the half of the audience, the reason must be giftedness (work of a skillful teacher). But if there are only two or three high-level students in the whole class, we probably deal with talent – a creative impulse that goes from the inside. (Some children meet their talents before school years, due to attentive parents or a vivid impression).

If a talented student outstrips the curriculum, he/she might be allowed to study the subject with older boys and girls. Besides, the school should send such prodigies to competitions and provide them with additional literature. In our opinion, no more help is needed: numerous external stimuli do not seem necessary for a student with effective internal motivation. So the teacher’s contribution is not going to be considerable, but he/she shouldn’t give way to despair: there are dozens of students with lower potential who need pedagogical support.

Many teachers cannot understand a talented student because they were not talented students themselves. At high school all of us were not lower than at the ability level – at least, officially. Without positive marks, we wouldn’t have been given a school-leaving certificate... In some academic disciplines, we could even demonstrate some giftedness (thanks to one or two true pedagogues). However, few of us had sudden, seemingly groundless affection for a subject. Maybe such people are more numerous among school teachers, but their number still seems drastically insufficient.

We will illustrate this capacity sublevel with a trivial example – Albert Einstein. Some readers may object that, according to our classification, he was not talented in Physics, but just inclined to it, since there was “a bad mark” in his high school diploma. However, we found out that this is a myth: the future Nobel Prize laureate had the highest marks in all exact sciences, including Physics. We, descendants, should blame an inattentive biographer, who misinterpreted figures in Einstein’s document... (Capria, 2005) It is very unlikely that the great scientist came to love
Physics due to his school teacher. For example, Einstein revealed his negative attitude to primary and secondary education in such words: “In primary school, teachers behave like sergeants, in secondary school – like lieutenants” (Kremer & Trenkler, 2000). And there are no exceptions made for teachers of Physics and Mathematics.

If Einstein is a talent, who is a genius? It is a student whose passion for the subject passes to his/her classmates. So the relative capacity sublevel may be characterized as talent + charisma. For a true teacher such a child is valuable as a person and as an additional means of pedagogical influence. And for a teacher with low charisma a genius may become a salvation, the main means of influence. Such a student is a real godsend for oral tasks (reports, presentations) on the most interesting and complicated topics. He/she is a philosopher’s stone due to whom “the lead” of someone’s ability may transform into “the gold” of giftedness… If a genius is an “A”-student, he/she may act instead of the teacher who is on sick leave (although this issue has to be discussed with the administration).

Therefore, genius as a capacity level does not involve any specific motivation in the student himself/herself, but this child motivates the classmates and the teacher.

4. Discussion

Nowadays primary and secondary educational institutions do not need high-level graduates (gifted and higher). Ability is enough. In fact, citizens’ attitude to their job – whether they like it or not – is not interesting to the labour sector, since an average member of society has to work due to the economic necessity. However, let us imagine a social order which allows all people to satisfy their basic and some supplementary needs taking no part in any socially useful activity. It would be a world or a country where unemployed citizens do not feel any shame: the community does not condemn them, and their families are free from financial dependence. (Theoretically, such systems are communism and tormopleasism – a social order developed by Ivan Samokhin, the paper’s first author, within his own philosophical theory (Samokhin, 2012, p. 72–75)). Such a society may seem magical or doomed to self-destruction. If people have a right not to work, it will be enjoyed by everybody, except a tiny group of true enthusiasts – people who found their vocation. Nevertheless, very few of them saw a guiding thread in their early childhood and just followed it. More enthusiasts discovered their calling in later life, due to external motivation or continuous mental search. Quite often, these people receive their giftedness from school or university teachers. This is what pedagogical art is all about. As for being able, not gifted, it is possible to lead children to this capacity level through trivial intimidation. They will “cram” textbook sections, theorems and poems just to avoid humiliating remarks… But this is what pedagogical art is definitely not about.

5. Conclusion

Of course, it should be noted that vocation is not just a productive and pleasant activity. This is the main source of positive emotions, which stimulates a person to use it not from time to time, but practically every day. That is – to work. If the state does not pay for the socially useful activities, teachers should provide their students with this kind of giftedness, the mightiest one. After finishing school these people will be grateful to the state, since it will give them everything they need for their vocation – materials, equipment, tasks, assistants. We think it will not be an exaggeration to say that such a worker might replace three average ones. This fact would compensate “pedagogical waste”: those cases when a teacher did not manage to make his/her student “fall in love” with Physics, Chemistry, Biology, Geography, Mathematics, History, Literature, Music, Physical culture, Labour studies or another subject.

References

must be sought for yourself. I am Leonardo. Date View June 17, 2017 http://ileonardo.ru/2012/12/alferov/


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