On Non-Compulsory Teaching

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Abstract
The paper represents polemic notes concerning certain ideological aspects of teaching (in particular, teaching mathematics), namely, free will and freedom of choice, ethical aspects of teaching, liberalization of teaching and compulsion degree, such varieties of substantiation as reference to authority, etc.

Keywords: Creative work, pedagogical result, methodic model

Introduction
Everyone believes that he knows all about education, politics and especially philosophy. Weakness of the immune system leads, on the one hand, to the community corruption, and on the other, to the discredit of the respective sciences among representatives of exact professions. Meanwhile, philosophical or supra-strategic reasoning can, anyway, be of use, and in a number of cases have not only strategic, but also particular interpretation.

One of central ideological and ethical issues is that of the free will. Ethical estimation can be applied only to a deed, which was possibly even not performed. The availability of free will allows us to speak about good and evil. One of theological explanations of the existence of evil is as follows. The G-d, being a creator, provided the creatures with the free will (otherwise they would have been automatons), which implies, among other things, ethical freedom, i.e. freedom in ethical choosing.

At first sight, these abstract notions are of no importance for specific problems of teaching.

First of all, if the Creator restricts His intervention, all the more, we have to do the same. When we make someone doing something, we should reflect on the question by what right we do it. Usually, an intervention is substantiated from the standpoint "better – worth", but there exists another standpoint – "having – not having a right".

How is all this related to obtaining a specific pedagogical result?

The central problem of teaching is that of the student's interest, his/her activity. True studies are possible only if a student is interested and active, which implies his/her own will. Therefore, it is incorrect to speak about a student in this case only in the passive. It is important to see his/her personality.

Thus, true studies are possible only if a student is interested and active. The most important thing is to arouse the students' interest.

Such interest represents the student's free will, his/her own attitude to a subject (even without being completely aware of it), his/her activity as an individual, manifestation of his/her own volition.

Creative work is impossible without free will. Therefore, real teaching implies the possibility of choice available both for a teacher and for a student. Otherwise, creative work on both sides is impossible. This is a fundamental difference between teaching at school and in hobby groups. One schoolboy said that he comes to a hobby group by himself, whereas a school teacher is imposed on him. A hobby group usually

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starts where school finishes – trying to awake the students' interest in the studies. The presence of choice ("I choose – I am chosen") ensures good relations between the teacher and the students, - otherwise, they part with each other. This is also important from the standpoint of a teacher. The quality of his lessons depends on his/her relations with the students, he/she feels more natural in their intercourse. What is admissible for a hobby group is inadmissible at school. A lesson is really good only if the teacher likes it. If not, he/she does not conduct such a lesson.

On the contrary, at school, in case of imposed intercourse, the relations can be worse – students can be more aggressive, and obligations and requirements to the teacher's personality higher. Very often, a potent teacher, even if he/she does not become a Cerberus, acquires some of his traits. Negative emotions of the teacher cause a respective response and vice versa.

Besides the psychological aspect, there exists a conceptual one. At school, a teacher is limited by the school syllabus (or, at best, by the necessity of preparing pupils for the university and teaching them how to study, which is sometimes rather hard). However, in this case it is easy to achieve mutual understanding with the students regarding the purposes of the studies in the sense of external necessity.

A hobby group instructor is free to choose the most beautiful aspects from the available extensive material. One of the goals of a hobby group is the esthetic education and a high level of intercourse. A teacher can use humanitarian digressions intended to show the beauty of an idea or a subject.

**Example:** Why isn't the article "a" used in the plural?

Let us find out where it has come from. "A ball" means "мяч". Now let us find a word starting with "a", for example, the word "apple". If we pronounce "a apple", it does not sound, so we say "an apple". What is "an" similar to (in many other languages including Russian)? Obviously, "one" – "1". Thus, "an", as well as "a" came from the numeral "one". Now it is clear why we cannot say "an apples".

Such reflections can be continued as follows. The word "any" (любой) also came from "one". By the way, the universal quantifier (∀) is an upturned letter A, and the existential quantifier (∃) is an inversed letter E (Exists).

And what do school teachers usually say? – "Children, the article "a" is not used in the plural, and if you do it, I will lower your mark".

Here the compulsion and mechanical approach point to the lack of understanding. One of the problems of studying a language is that we study its temporal cut, whereas the language has been formed as a result of a process which is worth getting an insight.

An acquaintance of mine, a mathematician, was teaching people of a certain nationality (I don't go into detail for the reasons of political correctness). A psychological peculiarity of this nationality was the ability to reproduce textually and rather exactly a 100-page book after reading it (rather quickly) for the first time. I told him that teaching such people can hardly make any sense, and he agreed that despite textual reproduction, there was no good of it. Fortunately, human mentality resists the memorization of senseless material (mnemonics represents mental delusion using artificial connectors). It is possible to reach a voluminous mechanical memorization, but fortunately, it is very difficult. The resistance to studies is connected with their meaningful aspects. Hence, it is very important to avoid compulsion.

A somewhat better situation is observed in mathematical schools. As a rule, a pupil chooses a school and, rather frequently, his principal teacher by himself. However, this choice is made only once, not to mention syllabus limitations, although they are weaker than in an ordinary school. Teaching in such schools is realized more freely than in ordinary schools.

M.A. Buziner has noted that it is impossible to convert to freedom straight away, because school habits still remain. Therefore, liberalization and training to be self-dependent should be gradual.

This is important not so much for the love of freedom as such, as for teaching students to organize their life themselves. Many schoolchildren droop because they remain outside the company (they are not
The ability to live on one's own should be taught, but it must be done gradually. Then they will be able to learn by themselves and to achieve success in non-favorable conditions.

Note that the concept of non-compulsory teaching is of Indian origin (remind the activities of Mahatma Gandhi).

We should emphasize again the meaningful aspect, besides the psychological one. Namely, free choice of the material allows choosing the most beautiful and cultivating, thereby, scientific esthetics.

In special schools the situation is intermediate between an ordinary school and a hobby group. A pupil chooses a school and, rather frequently, the principal teacher, but the choice is narrower, and there are more obligatory requirements of the syllabus. Many students have problems with social adaptation in technical universities after special schools. This can be caused not only by a drastic change in the milieu and low level of surrounding students, but also by a comparatively more stringent choice of situation and by the fact that the choice of the university was caused by extraneous, and not internal circumstances.

In conclusion, we have to emphasize that we do not refute the necessity of compulsion, - we have to teach using the means we know, and we are not going to support the so-called "non-frustration system". However, sometimes insufficient understanding of some situation can make a teacher to resort to compulsion, while it is better to try to understand it and reduce the compulsion. Meanwhile, situations of insufficient understanding are inevitable, and although one has to strive for restricting the compulsion, some forms of the latter are a sorrowful must.

It seems relevant to comment on the logics of truth and logics of orthodoxy touching upon the issues of intellectual freedom connected with the problems of teaching. Before coming to any serious conclusion, one should think about the means of obtaining the result, about the substantiation, about what should be considered a proof, substantiation or illustration. Common means of substantiation are related to logics, authority or revelation (usually, revelation is not discussed a lot, and we also do not touch upon this topic). In fact, thinking is based on unconscious means, and if we analyze only what is perceptible, we can lose a realistic concept of coming to a conclusion. Nevertheless, we make an attempt to discuss some conscious means, namely, a reference to the authority.

Although this notion is seemingly simple, it is actually rather insidious. An appeal to the authority can be understood differently, from references to already achieved results verified many times (sphericity of the Earth, existence of atoms) up to purely "police" methods (for example, references to holy texts playing the role of thought-limiting devices).

A reference to the authority can be also used as illustration or serve diagnostic purposes. It is expedient to pay attention to the appearance of such references, - they can point to complicated or intricate character of reasoning. However, most frequently, an authority accomplishes police and, at the same time, programming functions. My own critical thinking is a kind of my "custom-house", and a reference to the authority often acts like "smuggling through diplomatic channels". I cannot have respect to such motives even if it turns out that it was a cargo of truth, and its smuggling was needed for the good. All these are unreasonable excuses of the type "to have – not to have a right".

The Gospels have originally contained a response to formalism (Saturday for a man or a man for Saturday). It is quite another matter that formalism has penetrated the Christian religion, too.

G.V. Kondakov told us about the difference between a believer and a fanatic. A believer retains the sense of responsibility. Similarly, delirium is characterized in psychiatry by its mechanicity, and not by falseness (if delirious convictions are true, those around do not notice them).

As for reasoning perceived as logical, the situation is not so simple, too. Very often they imply just rationalization or logical substantiation of the a priori desired. There are lots of such examples in political papers, which is especially characteristic of liberal intellectuals.
References

Bespalko V.P. Education and teaching by means of computers (pedagogic of the third millennium). Moscow-Voronezh. Published in the publishing house of Moscow


