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Psychological aspects of evaluating textbooks for comprehensive school

At this stage, for optimization of teaching process in comprehensive school arises a need for objective evaluation of textbooks and dynamic modernization of their content and form in accordance with global social, cultural, geopolitical, ecological processes as well as tendencies of individual personality changes among school children [2].

Expert evaluation of a textbook, its psychological aspect in particular, implies identifying whether it provides formation of the holistic picture of the world as well as students' personality in accordance with their age - psychological characteristics, their coping resources, emotional and volitional spheres, and intellectual development.

Psychological and intellectual development at this age is specific in terms of further development of mental abilities that results in imagination and judgment scale expansion, knowledge deepening and expansion of consciousness in general. At the same time cognitive abilities improving rapidly encourage fast accumulation of knowledge that enriches teenage students' lives. At this age cognitive development is characterized by accelerated growth of abstract thinking abilities and formation and use of cognitive skills that considerably affect content and depth of adolescents' thoughts as well as their ability to think morally and reflexively. Therefore, a student not only gradually generalizes information gained from textbooks but also identifies the place of his or her own "self" in all processes in the modern world. Evaluating a textbook it is critical to identify whether such a possibility for self-determination is actually implied in the book by the author. For example, if we study topics (i.e. natural sciences) connected with global problems of humanity, ecological crisis etc., the author is supposed to include into content

different tasks that allow students to identify and express their own opinion regarding these processes, phenomena and possibilities of prevention of negative consequences, their own vision of their position and possibility to take part in the development and realization of projects aimed at solving the research issues.

In the development of cognitive processes among secondary school children the third stage is considered the highest – the stage of formal operations (abstract thought) from 11-12 years old and further during teenage years formal thinking gets stable, transforms into mature, reflexive intellect. It is necessary to evaluate whether the author of the textbook includes enough tasks and exercises for the development of abstract thought (for example, exercises for generalizing and systematization): at the age of 11 to 15 years old thinking operations may well occur without any specific basis, conceptual and abstract thinking is formed that functions by concepts, hypotheses, logical laws of deduction [1].

Thus, such serious changes in the development of the students' thinking at this age give an opportunity to prepare them for studying more seriously and deeply considering modern dynamic changes. So, ability of this age groups to apply deduction as a method of reasoning which goes from general to specific, logical conclusions, to form concrete statements from a certain general idea provides us with a good ground for modernization and complication textbook content.

A school textbook must contribute to formation of the holistic picture of the world so it is necessary to identify whether the following principles of such formation are followed when designing the latter:

1. Consistent use of generalized organized familiarization with a phenomenon in general (primary synthesis), gradual detalization (analysis), generalization, systematization (secondary synthesis), that is it is reasonable for students to first get familiar with more generalized scientific concepts without concrete details, schematically, thus creating a holistic perception of a phenomenon, an object in order to make it easier for them to perceive and comprehend more detailed information that contributes to better deeper

understanding of the essence of the phenomenon or object. These details quiet easily fit into generalized schematic “image”.

2. Principle of progressive expansion. During teaching the holistic picture of the world is formed by empty niches being filled into generalized scheme. Supplementing it with details must correspond to age - psychological abilities of student but not excess them.

3. Principle of cumulativity. From the very first teaching stages the picture of the world doesn't change radically but is gradually specified, deepened and expanded.

4. Principle of unity of different pictures of the world. During formation of the holistic worldview must be provided unity of all vital elements of different pictures (mythological, religious, artistic, philosophical, and practical that is formed during life activities and needs objectification) of the world on every stage with scientific picture of the world as primary.

5. Principle of concentricity. Formation of the holistic picture of the world in teaching process occurs by constantly keeping a certain object of cognition in the center of attention and even gradual detalization. Abstract character of details interpretation must increase when moving to new stages in teaching [1, 3].

Content, volume of teaching material must be designed taking into account dynamics of cognitive abilities of an adolescent as a subject of cognition.

To provide proper formation of the holistic worldview it is reasonable to make sure that number of elements in the picture of the world correspond to the levels of organization of matter: a) material organization of the world; b) nature; c) human society; d) human being as a part of the world. The first level implies gradual inclusion of information about structure from micro- to megacosmic phenomena and processes, the second level implies studying of biocenosis, species and population- and organism- related processes; on the third level occurs process of interaction between a person and society and with self; the fourth level one gets involved into a wide range of psychological , emotional and volitional spheres and

other processes , their holistic nature, deep interconnection of biochemical, energetical, intellectual and mental processes with the environment on the mentioned above levels – material organization of the world, nature, human society, personal self [1, 3].

It must be taken into account that appropriateness of textbook modernization is caused by low level of criticality and coherence of students' thinking, well-timed teaching allows to combine these two psychological opposites of intellect into one: on the one hand, age - related difficulties in understanding laws and regularities, on the other hand, the highest age –related need for systems knowledge.

The role of a textbook in formation of systems knowledge must be based on proper understanding of tasks and ways of increasing levels of systems knowledge, thus building a foundation for formation of systems thinking as well as the holistic worldview.

It should be evaluated whether the author takes into account the fact that teenagers experience changes in very deep structures of thinking and perception of the world in general. It has recently been realized by society that in the modern world success to be achieved is in direct proportion to the systems approach applied to solve problems whereas ignoring it may lead to failures, because system is the nature itself and a characteristic for human practice.

According to the recent scientific data our world is an infinite hierarchical system of systems that is constantly developing, and it is the systems world that systems character of our thinking derives from.

So a textbook must contribute to formation of systems thinking of students.

A school textbook is supposed to develop critical thinking and include questions, tasks, debates etc aimed at developing critical thinking. Critical thinking must run throughout the whole teaching content, for this reason textbooks must contain controversial and debatable issues, analysis of burning global issues, predict use of techniques for formation and development of critical thinking.

Critical thinking is a specific type of thinking characterized by being single-minded, independent, well –grounded, concrete goals–oriented, based on clear

criteria, flexible and responsible. This is ability to analyze, argue, and defend view points, deliberate using deduction and induction, come to conclusions based on facts or proved thought and ideas, clear statements regarding knowledge about values.

A student with a developed critical thinking is able to:

- Analyse information from different sources, evaluate its credibility, adequacy of problems, controversy of data and arguments to defend;
- Evaluate their own ideas as well as other peoples' ideas, identify strong and weak sides, doubt and check beliefs and unproved facts;
- Reasonably consider various approaches towards the problem solution in order to make well-grounded decisions and have options for solutions;
- Make independent judgments, logical conclusions, build persuasive argumentation;
- Provide reflection, self-assessment as well as correction of cognitive activity.

Critical thinking must be implemented and realized on the level of approach in all school subjects. Thus, textbooks must raise controversial and disputable issues, analysis of burning social issues, and organisation of teaching must imply use of techniques and methods for formation and development of critical thinking among students.

Active and interactive technologies are the best to stimulate artistic skills, initiative, independent and critical thinking of those who study. So debates in education may be considered to be one of the most effective pedagogical technologies of formation and development of critical thinking among students.

In conclusion, a modern textbook is meant to provide and encourage formation of the holistic picture of the world as well as formation of a student's mature personality in view of age psychology, promote development of emotional and volitional spheres, formation of systems and critical thinking.

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Keywords: a school textbook, textbook evaluation, systemised thinking, scientific picture of the world, critical thinking.