



EDUCATION PSYCHOLOGY

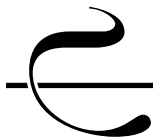
Abakumova I .V ., Savin V .A., Fomenko V .T.

New technological aspects of education: a modern lesson in modules

A modern lesson is considered by authors in a modular structure. Thus extremes of two approaches existing in didactics are overcome, one of which considers a lesson in an extremely general view, and the other examines it in its stage-by-stage, differentiated development in time. In the modular approach suggested by the authors a horizontal and a vertical lines of education are combined, the general and individual in it are found in one area of designing, carrying out and analyzing of the lesson. The lesson is considered in various didactic aspects and at the same time entirely. The article is intended to teachers, methodologists, teachers-researchers, psychologists.

Keywords: *a module, a topic of a lesson, an inter-subject integration, a leading idea of the lesson, basic and accompanying concepts to the lesson, the general context of the lesson, a semantic component of a lesson, universal training actions, educational technologies, structures of the process, pedagogical risks in the lesson.*

In domestic education the lesson still remains the basic form of educational process. It is rightly qualified as an initial unit of education. A unit, as is known, has properties of the whole. Therefore everything that is usually spoken about in connection with education is also applied to a separate lesson. In didactics there are two extreme standpoints relating to the approach to the modern lesson which also exist in pedagogics. One of them consists in its most general, unsplit into elements and stages understanding. The other extreme standpoint consists in focusing attention on components of the modern lesson, in particular, on consecutive stages of its developing in time. The approach to a lesson suggested by us has a modular structure: the lesson is represented in modules and blocks, and due to this fact a separate and a general in it turn out to be combined; the lesson is represented as an integrated and at the same time a multivariate process including the basic didactic tendencies of modern education (individualization, integration, sense-creation, a space of a choice). The modern lesson in modules is a specific passport of the lesson, its process chart. It needs to perform the same function as the didactic standard, the general framework of educational technologies, and the models of training reunited in a complex model of educational process. The listed didactic structures qualified in pedagogics as new technological aspects of education are directed at forming in a teacher an orientative basis of actions of a high level of generalizations: the didactic standard – in the area of the



content of modern education, the general framework of educational technologies – in the general technological area of education, and the complex educational model – in the structure of education as a whole. The modeled lesson can do the similar function which focuses the teacher in a complex, multiple-valued structure of education.

Module 1. The topic of the lesson. In the traditional approach the topic of the lesson is posed impersonally, neutrally, and determines a framework of the content and a course of the lesson. In the given module it can also be expressed neutrally («The concept of adjective, its basic attributes», «A.S. Pushkin's Lyrics»), but clarifying the topic, fixing its basic characteristics are provided. Among them there are:

- the scientific-cognitive value of the topic.* Even in musical lessons sounding and experienced by children music is recommended to “lifted up” to the theoretical level, in particular, in order to teach pupils to perceive, “to read” a “big” music (an opera, the symphony, cantata);
- the sense-personal significance of the topic.* If the attention is fixed by the previous characteristic of the topic on objective meanings of the topic, in this case it is fixed on its sense-personal units. Personal senses express “my” subjective attitude to objective connections and relations of the studied reality, and in this way the teacher has to give a meaning to the topic of the lesson;
- the social importance of the topic of the lesson.* Actually each subject has got the topics comprising potential of socialization of pupils and forming, for example, their behaviour in society, in its difficult situations of communicative type, etc.

Module 2. The didactic paradigm in which context the lesson is designed.

There can be several or even a great many paradigms. The module posed for a reader contains paradigms which are to a different extent connected with one of the central didactic categories – with knowledge:

- the paradigm of mastering of knowledge.* In traditional didactics it is a general line of the educational process. The well-known statement of classical scholars – «understanding is the core of education» – is, first of all, correlated with mastering knowledge. However, whereas the knowledge is a result of activity, lessons of knowledge as “things in themselves” are not a significant source of development of pupils;
- the paradigm of assimilation of knowledge.* Assimilation in comparison with “mastering” is more active, contains an element of overcoming, resistance. In the paradigm of assimilation the core of education is different – it is a moment of movement to understanding through lack of understanding. In assimilation lessons the stress is shifted from knowledge to the assimilation itself, to a search of the very knowledge. At this point it is obvious there are more opportunities for development of pupils;
- the paradigm of experience of knowledge.* This paradigm appreciably differs from previous ones in a turn of the lesson to the personal sphere of a pupil, his/her emotions, feelings, attitudes to the world. All of these cover the special, sense sphere of the pupil. He/she experiences that thing which has a sense for him/her;



–*the paradigm of run through knowledge.* The given educational paradigm extremely narrows academic, cognitive, gnoseological frameworks of the lesson, brings it together with life, with children's own life. If cognition is an extraction of logos from events, in our case the lesson itself is an event. In this case something that is outside the life of the child is not simply experienced, but it runs through as an act of his/her own life.

Module 3. The type of the lesson. The types of lessons are defined according to several parameters:

–*the place of the lesson in the general logic of educational process.* Though the given typology is enough traditional, nevertheless it is more modern and urgent, and expresses a connection of the given lesson with the previous and following lessons. According to the place of the lesson in the general logic of education they define: an introduction lesson, advanced lessons, and a revising-generalizing lesson. The introduction lesson in relation to the following lessons carries out a setting function; it exposes itself into a prospect of educational process. On the contrary, the revising-generalizing lesson is a certain consequence of the previous lessons, and solves a problem of forming simultaneous thinking of pupils, revealing and assimilating that general material which was studied earlier. The advanced lessons have got their own logic;

–*the character of cognitive activity of pupils.* Taking into consideration that fact that an activity can be reproductive (unproductive, repeating), productive (searching, problem, heuristic), and creative, lessons are divided into unproductive, productive, and creative. Lessons of the research type (a research-lesson) and problem-creative lessons are similar to them;

–*the prevailing technology of education.* Among them there are lessons of thematic, problem, large-block, problem-block, research, playing, advanced, dialogue (interactive), reflexive, sense-creation, and integrative types.

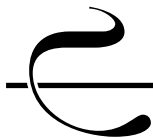
It is reasonable to conclude that one and the same moment can belong to various types depending on parameters of their distinguishing.

Module 4. The purposes of the lesson. The value of the given module in the general structure of the lesson is determined by that fact that the purpose as a means assigns by itself the character of activity. The content, method of training and structure depend from what is the purpose of the lesson. The purposes of the lesson are conventionally divided into:

–*the purposes in traditional terminology:* teaching, developing, educational. These kinds of purposes of the lesson in modern scientific didactics are not popular, for a multitude of their current variants cannot be put in the named target triad;

–*the purposes in modern interpretation.* In this case, according to the degree of "contemporaneity" and practical importance competence, communicative, reflexive, sense-creative, spiritual-moral purposes are distinguished.

The purposes of the lesson can be qualified as tactical purposes of education. Those purposes which are beyond the bounds of the lesson and connected with sig-



nificant fragments of education are considered as strategic purposes. Those purposes which are related to entire parts of the lesson and, therefore, settled within the lesson are defined as the operative purposes. The purposes of the lesson which take in-between position are defined as tactical ones.

Module 5. The leading idea of the lesson and other significant ideas. The leading idea is not connected to pedagogical matter of the lesson, but to its content, correlated to the topic, and expresses its general sense. The leading idea of the lesson is its axis around of which all material is grouped and which gives integrity to it. Absence in the lesson of a leading idea brings it to partibility. Ideas of the lesson both leading and significant others it is possible to classify as follows:

- ideas having characteristics of features of the subject* (e.g. the idea of the reduced multiplication of numbers in mathematics);
- ideas which source is the content of the given subject*, but they considerably exceeds it (an idea of a full stop in Russian, which initiates ideas about a role of a full stop in mathematics, geography, astronomy);
- inter-subject, integrative ideas of the lesson* (the content belonging to various areas of knowledge and life activity of a person, are used «as equals» and joined new quality), for example an idea of harmony in special course «Mathematics and art».

Module 6. The basic concepts and concepts accompanying to the lesson. The basic and accompanying concepts are compared with another well-known in psychology and didactics pair – basic and background knowledge. The basic concepts which are used by the teacher and pupils during the lesson carry the most significant, essential content of the lesson. And there should not be an underestimation of the meaningful component in the lesson. The scientific world outlook of pupils, which necessity is not denied by either research teachers, or practical teachers, is, first of all, being formed on the basis of meanings. The same is relevant to accompanying knowledge which has to be addressed by the teacher and pupils should on various occasions during the lesson.

Teachers should take into consideration two moments connected to splitting knowledge-content of the lesson into the basic and accompanying concepts:

- as soon as pupils assimilate the main basic concepts accustom, the following lesson these concepts can already be turned into a rank of accompanying concepts, into a peripheral zone of the lesson. On the contrary, concepts which were used as accompanying and background ones at the previous lessons, can become basic at the given lesson, and then again, convert to accompanying concepts in accordance with the aforesaid;
- during the lesson both basic, and accompanying concepts including their objective meanings can assume a character of the content which can be transformed by pupils into sense structures on the instructions of the teacher. In training «sense problems» are gaining ground, and non-sense components of the content can be their source.



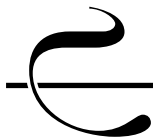
Module 7. The lesson as a field of inter-subject integration. The didactic tools of integration includes:

- kinds of integration*: intra-subject, inter-subject, cross-subject;
- factors of integration*, in our case, it is its inter-subject variant: significant, data-intensive concepts, problems, images, events, i.e. elements of the contents. Some educational technologies can be a factor of an inter-subject integration, for example, an organizational-activity game;
- kinds of connections of the inter-subject integration*: a direct connection which extends from the lesson to the content and technologies of other subjects, and a reverse connection which stretches to the lesson from other training courses and enriches it with the various contents;
- the depth of inter-subject integration*: elementary, average, and deep levels. The question about the technology of organizing a lesson on inter-subject integrative basis, when there are several teachers of various specialities in one classroom (a physicist, a chemist, a biologist during studying a molecular structure of a matter) and it is necessary to organize and harmonize their work somehow, is urgent.

Module 8. The general context of the lesson, the inter-contextual bases. The theory of contextual education defines a number of the common contexts which serve as a basis for the content of education and according to which the general contexts of the lesson are also determined. We can name some of them:

- the academic context*. The lesson conducted within the given context is not obligatory to be traditional with its quite clear rules and strict norms within the framework of knowledge-education, but it can also be a modern intellectually focused lesson, with a high attention to analysis, synthesis of the content mastered by pupils;
- the playing context*. The lessons within the framework of such a context are to limit a potential academism of lessons, by means of images inherent in a game and other means of imitation, actively to involve emotional-psychological sphere of pupils;
- the life context, it is also a sense-personal one*. On the one hand, the given context limits academism of lessons, but on the other hand, it makes a source of experiences of children of their real life and in that way limits a degree of using of imitating means (including their multimedia, virtual, holographic kinds) in the lesson;

Inter-contextual bases of a lesson draw attention. At the lesson devoted to interchange of consonants, the following information with a shade of geography nonplus-les learners: “Taganrogsky” (Taganrog’s) factory – “Krivorozhsky” (Krivoy Rog’s) factory, and at the same time their basis is common: Tagany Rog – Krivoy Rog. The task of the teacher makes pupils to address to the history and the lesson gains a historical context. In this case the history helps to explain the interchange, and it is found out an interesting fact: there is a “g”-sound in “Taganrogsky”, but, nevertheless, there is a



“zh”-sound in “taganrozhtsy” like in “Krivorozhsky” factory. The lesson, as we can see, is absorbed in a research context, and, in general, in the inter-contextual process.

Module 9. The initial position of the lesson. In theory and working practice of the lesson some initial positions are found out:

- from the known to the unknown.* There is a certain sense in such a position: new knowledge is drawn by the old one, it is intertwined with activated by special didactic methods associative structures of previously assimilated by pupils knowledge, skills, methods of activity though this position lacks an activity component;
- from subject activity of pupils to academic activity.* The given position comes from that fact that the subject activity is a source of any other activity. It means, for example, before pupil study a pronoun, it would be good that they handle the very pronoun;
- from an image to a conceptual content.* Here the image has a graphic and even a conceptual character, and it is purposeful to use it as a didactic factor in case if the lesson has an aim to teach children a theoretical material and to develop their discursive conceptual thinking. The image is a primary orientation of pupils among following theoretical content;
- from experience of pupils and its gaining to an abstract material.* The given position of the lesson is well matched with the well-known maxim «cognition is an extraction of logos from events». Experience of pupils carries out a function of event as well as a personal plan in the given position of the lesson;
- from the world outlook of pupils to their activity in various directions.* Experience of pupils is not the same as their world outlook. The world outlook of a child includes both his/her experience, and the attitude to the values which are involved in an orbit of his/her life activity, as well as the very values. During the lesson the teacher firstly forms an attitude of pupils to what will be discussed later, and the given attitude should be taken from their most significant value orientations. It is clear that the whole trajectory of the lesson should follow this attitude.

Module 10. Universal educational actions of pupils within the structure of the content of the lesson. According to the activity approach settled in new state standards universal educational actions of pupils as a part of the fundamental «core of the content» are an obligatory component of a modern lesson. There is a question of kinds of these universal educational actions. They are distinguished:

- logic and, partly adequate to them, psychological operations and procedures.* Among them there are inductive and deductive ways of thinking, reasonings, syllogisms, comparisons, matching, definition of essence of the studied material, conclusions, systematization, analysis, synthesis. Speaking about rational methods of educational work the aforesaid universals are meant first of all;
- work with media and with the very information.* Curricula and programs allow pupils to gain media-competences not only within the framework of various specially organized media-training, but also within the framework of various ed-



educational and subject areas, in essence, at any lesson: finding superfluous and insufficient information in the text of the own composition – literature; measuring a quantity of information in a layer of ground – biology; transforming emotional-figurative information into discursive-conceptual one – painting;

–*work with the text*. It assumes its decoding, “dis-objectification”, devitrifying; an ability to compress or, on the contrary, to develop a text having separated in it the principal things from the non-principal things. It is a special, creative level of work of pupils with the text – a creation of their own texts. Pupils in this case are co-authors, instead of users of the content of the lesson, and their creative activity assumes absolutely unusual procedures: «presenting knowledge to consciousness», «a feeling of proximity of the truth» «an anxious state of mind», «a step of clear consciousness», etc.

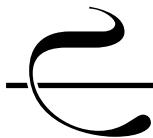
Module 11. Educational technologies used in the lesson. Their following classification is recommended:

- according to the way of coding the information* (verbal, audiovisual, machine and without-machine programming, multimedia, hypertext, holographic);
- according to the character of mutual relations of the teacher and pupils* (subject – object, subject – subject, subject – text – subject (the Internet, a computer in its any kind, cinema, any other technical device is considered here as a text));
- according to the character of cognitive activity of pupils* (reproductive, problem, research);
- according to the ability of providing sense-personal development of pupils* (emotional-psychological attitudes, a dialogue, a sense-personal context, situations of a choice, personification, etc.)

As in the previous modules expressing accumulation of qualities of this or that aspect or segment of the lesson, in the given module the value of technologies appreciably increases from group to group (from top to down) in proportion as their applying to personal sphere of pupils increases.

Module 12. The structure of the lesson. According to an orientation of the lesson we distinguish:

- line (single-line) structures*. In such structures of lessons logic and temporal relations coincide – the content of the lesson develops along the same lines, as a dual movement at the time of thoughts, feelings, emotions of the teacher and pupils.
- two- (three-) line structures*. If new and repeated materials are in structural conformity, in a condition of isomorphism, it is more preferable to distribute the revision in the form of an independent, autonomous process over the whole lesson rather than to premise it to studying new material. The lesson will take the form of a two-line structure. If we add to it applying to the following structural-identical material and similarly distribute it over the whole sequence of moments, the two-line structure will turn out to be transformed in a three-line one;



–*concentric structures*. In this case every moment of the lesson does not continue the previous one, but repeats it at a new level, deepens and expands it, transforming the process into a new quality. A kind of these structures is, for example, the sequence such aspects as the moment of an emotional-figurative representation of the studied material – the moment of transformation of the same content from the form of an emotional image into a discursive, analytical form – the moment of transformation the presently conceptual, theoretical content into conceptual-figurative one, etc.;

–*radial structures*. They take place in the event that the basic content of the lesson is concentrated in the initial moment of the lesson and completely, in a compressed, compact form is perceived by pupils, and then each its part exposes itself sequentially, and, it is better, simultaneously in a synchronous plane of several “moments” of the lesson.

Module 13. The activity component of the lesson. It is distributed among participants of the lesson in a certain way:

–*the activity of learners as subjects of the lesson*. It is divided into individual (with its individual trajectory as a component), group, intergroup, frontal. In this case traditional differentiation and individualization take a character of a self-differentiation and a self-individualization. The sense matrixes and codes of consciousness determine a choice of pupils;

–*the activity of the teacher during the lesson*. It is based on a pedagogical management of process of the lesson which assumes, firstly, an actualization of activity of pupils, secondly, keeping it within the framework of natural self-development according to specific character and experience of the given particular child, thirdly, directing the activity of pupils according to the topic, the purposes, and the idea of the lesson. It is clear that the activity of the teacher during the lesson being pedagogical includes pedagogical competences, and they should not omit such reaching back scope of activity of the teacher, as pedagogical skill and pedagogical art;

–*the joint activity of the teacher and pupils during the lesson*. In the context of modern approaches the attention is attracted, in particular, with participation of the teacher in playing and co-operative activity of children «on equal terms». In some areas of knowledge, for example, in art, pupils can surpass their teacher, and an understanding teacher can «turn to advantage» this fact for the pedagogical purposes. The other noteworthy moment is in an interpretation of interpersonal relations of the teacher and pupils during the lesson as an exchange of values. Pupils behave adequately, studiously, and the teacher smiles at them. The parties exchange values.

Module 14. Pedagogical risks during the lesson. They are shown in particular in the following:

–in an attempt to development of pupils there can be an underestimation of the knowledge component of the content of education – data-intensive concepts,



ideas, laws, regularities comprehended by children during training. Such a sort of knowledge in itself is attributed to epistemic, developing, and their underestimation in training can lead to decrease in the developing potential of educational process, in particular, its intellectual component;

- in its turn an aspiration for intellectual development of pupils based on mastering of significant basic concepts, ideas, laws, regularities and at the same time neglecting images, real facts and events can lead to a formalism and dogmatism of cogitative activity of pupils, and there will not be an increase in their intellectual development;
- in addressing the lesson to the system knowledge of pupils as to its important result. In generalizations of the studied material on the basis of clear logic constructions of the process there is a risk of an underestimation of chaos, an accumulating by children impressions in their disordered state. It is known that the order arises from chaos and it should be anticipated with designing of the lesson;
- having forgotten about an adequacy as an attribute of culture (in our case it is a didactic culture), it is possible excessively to absolutize even the system approach in the systemacity itself. The teacher can form in a child such a system of knowledge or such a system of actions which he/she will not be able to get out of later in order to turn to other systems of knowledge and ways of activity: the system has got an ability of nothing to let out of itself, and at this time the other has got an ability of nothing to let in itself. There are no «channels» of flowing of information between them which implies an expediency of using the intersystem approach in education, for example, development and use of untraditional, intersystem cognitive tasks.

The module 15. Results of the lesson. They include:

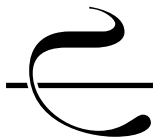
results in a form of gained during the lesson competences of an established level. For example, an ability to short-distance, average or distant transfer of knowledge, a degree of maturity of an orientative basis of actions belong to this category;

the increase of creative development of pupils: flexibility, variability, completeness, depth of thinking, an ability for creation of new images, cognitive problems, for problem-setting, solving its difficult variants, transformation of one texts into others (art – into system of mathematical coordinates, mathematical texts – into artistic images, etc.);

development of semantic sphere of pupils: abilities to get to the bottom of the sense of the studying content, a degree of subjective comprehension of examined facts, their experiencing, maturity of an individual world outlook of pupils and its correlation with an objective world outlook, acquirement – within the area of the teaching topic – of values of the home, Motherland, national values, values of universal culture.

References

1. Abakumova I.V. Teaching and sense: sense-creation in educational process. (The psychological-didactic approach). – Rostov-on-Don: Publishing house of Rostov State University, 2003. – 480 p.



2. Abakumova I.V. Sense-didactics. – M.: Publishing house “KREDO”, 2008.
3. Fomenko V.T. The modern educational process: content, educational technologies, organizational form. – Rostov-on-Don, 1996 (in the co-authorship).
4. Fomenko V.T., Osadchenko N.G. Designing of educational process on a figurative-emotional basis. – Rostov-on-Don, 2010.
5. Fomenko V.T., Abakumova I.V. To the development of structural didactics: initial logical structures of the process of education. – Development of a person in educational systems // XXX psychological-pedagogical readings. – Vol. 1. – Rostov-on-Don, 2011.