Perspectives Of Informatization Of Education, Challenges On This Way

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Abstract: The article explains the perspectives of informatization of education, challenges on this way and the ways of solution to the issues in the triangle of teacher-pupil-student, secondary school-higher school-home. Moreover, it has established the functions for teachers by enumerating factors they should take into consideration to increase efficiency in teaching biology in the educational enterprises.

Key words: teaching biology, multimedia, informatization of education, training technologies, interactive teaching, motivation, experiment

At present in the global education system, like in most other fields, some directions which have been realized in an online form have made the global education arena small and created a favorable condition for those who work in the educational enterprises in different countries to come easily together. Like in all other fields, there were different approaches to NET by the university teachers. But most teachers have acquired new methods. They use information technologies independently, prepare presentations and take advantage from electronic boards and internet. The approaches to the process of education informatization which develops rapidly in the world by the methodologists around the world are also of great interest: "Nowadays special attention is paid to the problem of education informatization in all fields of education and in recent times this process will further get accelerated. This firstly demands informatization of community. In other words, there is a need for the quality changes of the community life and human activity. (3). As is seen, new education technologies which are
irresistible and which increase their benefit day by day and cannot be compared for their visuality potentialities in the teaching process will control over the education process, in general, education sector.” We had tests at the secondary and higher schools and gained positive results during our research years. We made one more point clear that students at the secondary and higher schools find even the most interesting methods boring soon which are repeated every day and are not changed, their attention is distracted, acquisition decreases, and the term of remembering things becomes shorter. To avoid this problem we tried to draw the learners’ attention to the teaching process by using different methods of teaching and creating problem situation. Application of new teaching technologies in the biology lessons which is considered the most effective interactive method and way of teaching and also the accomplishment of the XXI century, has brought some problems with itself. Having some lessons completely by using ICT distracts students’ attention. At the same time having lectures in traditional way causes students’ dissatisfaction. But what is the neutral way? How to teach to achieve higher effectiveness in the class without distracting students’ attention from the lesson and without making them feel bored to learn the material? How to develop the culture of using new technologies, skills and habits at the secondary and higher schools: “For this special courses must be created at higher schools, special programs for improvement of professional skills must be prepared, participation of teachers in the competitions must be activated, as well as, every educational enterprise must be provided with cadre potential, socio-psychological condition and electronic resources” (4).

While analyzing different views and thoughts of the local and world methodologists related to the problem we once again think that, of course, preparing of a systematic methods established and approved by all and its renewal time by time will provide opportunity for teaching process not to fall behind the developmental dynamics of technical devices which are improved and changed day by day. In modern period another innovation that has affirmed its effectiveness along with new educational technologies is interactive education. The principles of interactive education and new educational technologies are proving their value in the informatization of education. The principles of interactive education in the contemporary teaching process like “Guided by logical criticism and creative thinking; dialogic education; democratic teaching style; dexterity of teaching, form and methods, difference of knowledge sources; students’ activity, gaining and acquiring knowledge autonomously; active use of pupils’ emotional and personal features; broad opportunities in realizing their abilities, in freedom and initiation; creative application of the knowledge in a new condition (8) ” and the use of visual aids that new education technologies brought to the teaching process create favorable condition to demonstrate morphology and physiology of
living beings, particularly in the teaching process of biology, as never had been before. Motivation is one of the conditions of effectiveness and a way of arousing interest in a subject in the teaching process. Our colleague who claims that “Appropriate motivation and correctly asked research question is an essential factor to achieve a goal at the lesson” (5, 10) forgets about one important factor. The main factors that should be taken into consideration for the productivity of the teaching process at the secondary and higher schools include the age and level of knowledge of every teacher and class, their social life condition, characters, the number of boys and girls in the class or auditorium, etc. along with the richness of material-technical basis. These points should be taken into consideration just because: - tasks should be given according to the age and level of knowledge of students, they should not cover the fields that they do not have any information about, in general. This cannot help the learners to improve themselves but cause reduction of their self-confidence; - some points should be taken into consideration in the teacher-learner relations, for example, while setting up homework teachers mustn’t be so strict with the points where the usage of ICT or internet is needed. If the student is not able to use ICT or other devices, he/she should be joined to those who are able and a group work must be given. In this case he/she can benefit from his/her friend’s opportunities without feeling any discomfort; - in higher schools, particularly in secondary schools the teachers should approach the students individually and behave the learner taking into consideration his/her characteristics, for example, he should emphasize the student’s positive features or skills. Otherwise, he can hardly get positive achievements in the teaching process; - to discover what the students have learned he should ask his students to make their presentations by using the BIBO table, Venndiagram, etc.- to have girls and boys together in the same class or auditorium can be a key factor to arrange the lesson successfully, to intensify the competition and to create motivation. This can be done in different ways:

- to give different tasks to the boys and girls;
- to ask the boys to do the task in group, but the girls individually, or on the contrary;
- to ask the girls to group main characteristics of a male body and their different characteristics from female body and the boys main characteristics of a female body in the form of table, etc.

In the years when we began our experiments form surveys, interviews, discussions, organization of open lessons for exchange of experiences, conducting form surveys by secret ballot, etc., relation of teachers and learners to the lessons conducted by interactive teaching method and using NET, the answers to the “synthesized” questions by using intersubjects relations proved the situation to be not promising. During our surveys at higher and secondary schools we tried to explore the situation for solution of the following issues:
- what is your relation to the biology classes conducted by using new educational technologies?
- do you satisfy with textbooks? Which other sources do you use?
- how helpful are presentations with multimedia and internet resources in learning sciences?
- do you discuss your education problems with your peers in the social networks who live abroad?
- do you use research method, motivation and problem situation in the biology classes?
- what is the advantage of lessons conducted on the basis of curriculum? Do you agree with new education reforms?
- what else would you like to change in teaching? Do the teachers satisfy you?
- Are you satisfied with yourself?

The answers to these questions enabled us to form such an opinion that there are enough problems which need their solution in the field of informatization of education and which will keep their topicality in the near future. The following chart describes the stages of experiments we conducted to study the situation of interactive teaching, NET, motivation and the application of curriculums.

The chart shows alternation of test lessons conducted in a traditional way and by using an interactive teaching method in the experimental and controlled groups. As a result it was proved that one of the perspectives NET application is that younger generation acquire mentioned and shown methods easily, because they can use information technologies better.
Histogram describes the role of using educational technologies in teaching biology and the level of biological knowledge and skills formed in students and pupils during the test lessons conducted in the controlled and experimental groups. Information from the used literature (6) shows that using multimedia in teaching any subject makes teaching process more interesting. Moreover, using multimedia in preparing the students’ free topics directs them to do researches and this is one of the key factors in the application of knowledge, in the deepening of knowledge and for long-term memory. Thus, “Multimedia enables the teacher to bring not only the smallest living beings, but also the biggest ones to the auditorium and at any moment to make transitions from one object to another one, to compare different organisms and to demonstrate some topics on the same screen at the same time.” (7, 9). But we cannot satisfy only with the mentioned features. The main goal is to explore different methods using existing and available opportunities which will give a chance to acquire biological knowledge and skills in the biological classes. After having practices higher school students have had more active discussions on this topic, they have expressed their claims and proposals, and also their opinions about the activity of secondary school teachers. We began to test new methods and to approve it through the way of experiment at the secondary schools during the teaching experiment in order to remove the problems we touched upon during our determining experiments. These experiments were meant for the teachers of biology to use interactive teaching, the demands for this method, the principles to be fulfilled, and application of the methods of using NET. We have tested the determining experiment at the most secondary schools of the Nakhchivan Autonomous Republic and also in a number of secondary schools of Azerbaijan, including the city of Baku. And teaching experiments have continuously been done either at the previous schools, or at other schools and higher schools.
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