

*Materials of Conferences***THE EDUCATIONAL PROCESS  
OPTIMIZATION WITH THE REMOTE  
STUDY MODES APPLICATION**

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The educational Institution innovative activity is the significant resource in the educational system modernization processes provision, which is being directed, first of all, at the new, the contemporary education quality achievement, at the content renovation first – priority tasks and also at the teaching and the education technologies solution.

So, the occupational and the vocational education system liberalization, and the labor relations, the industrial production crisis, and the services sphere development have already been resulted in the fact, that the educational process innovation, its maximum proximity to the consumer are being more valued just in the educational services sector. Thus, at present, the case – technologies and the remote educational form are being possessed the similar qualities.

It is necessary to be distinguished the remote teaching, as the system, well as the process. The remote study is being assumed the pedagogical planning stage theoretical comprehension, its substantial and the pedagogical, and the educational (e.g. in the concept of the pedagogical and the educational technologies, the methods, the forms, and the modes application) components by the analogy with the teaching other forms and the modes. And, consequently, the pedagogical and the educational planning stage tasks are the following: the electronic courses, the electronic textbooks, and the training aids, the teaching techniques, the learning crunches complexes making, the study process organization pedagogical and the educational technologies development just in the nets.

The remote teaching courses are being assumed the pupil's activity thorough and the detailed planning, its organization, the teaching tasks and the targets' challenges clear definition and their setting, the necessary curricular and the teaching materials delivery, which have to be provided the interactivity between the pupil and the teacher, the feedback between the pupil and the curricular and the teaching materials, and also to be provided the group training and the learning possibility. Thus, the efficient feedback presence is quite absolutely necessary, as only it is able to be allowed the pupil to receive the necessary information on his or her advancement and the improvement correctness on

the way from the complete ignorance to the full knowledge. And, it goes without saying, the student's independence just from the Institute of the Higher Education, the College, and the University geographical situation is the remote study modes and the forms main quality.

At the present moment, the remote study modes and the forms organization main challenge is the fact, that the remote teaching and the training efficiency is directly being depended on many following parameters: the process technical organization, the accompanying personnel competence, as from the teacher's side, well as from the student's one, the necessity in, exactly, the knowledge receiving (e.g. the main condition) and, it goes without saying, those teachers' and the lecturers' technical, the pedagogical, the educational and the casual qualification, who are making their direct work with the pupils. It will have to be the teachers and the lecturers with the universal preparation and their training: having possessed the contemporary pedagogical, the educational and the information technologies (IT), psychologically having prepared for the work with their pupils in the new educational – cognitively network environment, having assured of their activity necessity. So, at present, there is such kind of the tendency, having resulted in, that the high level qualification and with the versatile skills and the many – sided habits teacher and the lecturer is not quite needed any more, after the academic discipline complete course one – time development. After this, the electronic sheet is being formed on the basis of the already passed tests, and it is quite be possible to be printed by every clerk. The challenge on the remote pupils performance their score passing control organization and the conducting has not also been decided. So, it is quite necessary the students' knowledge grade normative – legal basis creation and also the arrangements development, having permitted the leading teachers' and the lecturers' interest to be increased in the remote study modes and the forms development and the further improvement for all these challenges solution.

Thus, the teaching on the remote technologies is, absolutely, being meant the complete knowledge the work skills and the habits with the PC, with the "Office" main programs, and also the skills and the habits to work with the service programs and the service routines (for example, the "Educon" complex has already been realized in our University). For all this, the teacher and the lecture, having been involved into such educational mode and the form, will have to possess, ideally,

the Electronic Methodological – Educationally Complex (EMEC) complete form.

Certainly, the electronic MEC is being existed on the basis of the paper version. The Institute of the Higher Education, the College, and the University teachers and the lecturers, at the same time, are creating the Methodological – Educationally Complex (MEC) backbone, having developed and having, annually, renovated the executable codes and having refreshed the working programs. For all this, the executable codes and the working programs modernization is being taken into the consideration such general processes, as the human activity all types informatization, the education and the vocation specialization at the industrial needs and under the region vital activity and the vital functions conditions. At the present day, the teachers, the lecturers and the tutors EMEC is being included into itself the executable codes, the working programs, the lectures, the operating instructions, the user's guides, the laboratory and test works and the necessary directions and the instructions on their carrying out, the literary sources lists, the test material, and also the testing standards and their models on all the given and the teaching academic disciplines. Optimally curricular and the teaching material is being presented in the structured form, that it simultaneously gives the possibility to the pupil to be received the systematized knowledge on each subject and the theme, and to the teacher and to the lecturer – pedagogically to work it out and to systematize his academic discipline description and also the testing material acquisition and the completing. The “Skype” type programs application is being assumed the academic disciplines study process to be individualized and also to be concretized.

So, the transition on the remote code and the form has also been demanded the virtual laboratory works development. At the evident substitution, such developments application is being permitted to be received the background knowledge in the unequipped branches, in the offices, or in the representations, or even not having gone outside the house for the students. And, it goes without saying, the laboratory works, even in such approximate form, are being permitted to be received more full and the versatile and the many – sided presentation on the studied academic discipline, to be deepened the notions and the definitions, to be improved and to be perfected the laws and the regulations perception for the user.

The education remote receiving form is, ideally, being opened the necessary access to the non – traditional informational sources, to be increased the independent type of the work efficien-

cy, to be given perfectly the new possibilities for the creative work and the activity, the quite various and the different occupational skills and the vocational habits acquisition and the consolidation for the students, and, it, moreover, is being permitted to be quite realized the new modes and the forms and the teaching methods for the teachers and the lecturers.

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**THE SYSTEM ANALYSIS  
AND THE MATHEMATICAL  
MODELLING IN EDUCATION**

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The teaching long – term and the many years' experience such academic disciplines, as «The Theoretical Mechanics», «The Strength of Materials», «The Applied Mechanics», and also «The Experimental Mechanics» for the full – time tuition or the resident instruction and the non – resident instruction or the distant education students has been given in this paper.

So, we have stopped at the full – time tuition or the resident instruction in the Technological Institute of the Higher Education, the College and the University, as there is the considerable difference between the full – time tuition or the resident instruction and the non – resident instruction or the distant education. The system approach, the multi – parametric optimization, and the mathematical modeling have been assumed as the research basis. Moreover, the hierarchical structure charts for the different and the various levels have already been built.

So, the Institute of the Higher Education, the College and the University – this is the opened system. That is why, the schoolchildren are the quite initial «material» for them. The already – made «production» is coming at the enterprises, into the offices, into the scientifically – planning – research Institutions. Thus, we have the first level system: the preschool Institution – the school – the Institute of the Higher Education, the College and the University – the enterprise.

Then, let us single out «the Institute of the Higher Education, the College and the University»