

# Didactical conditions of development of informative-communication competence of future engineers during master preparation



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### Abstract

Didactical conditions of development of informative-communication competence of future engineers during master preparation, which will promote their personal and professional growth in conditions of modern society, are stated in the article.

Key words: MAGISTRAND, ENGINEER, INFORMATIVE-COMMUNICATION COMPETENCE, DIDACTICAL CONDITIONS

General informatization of society and rapid growth of economy conditions the necessity of implementation of information technology into all the spheres of activity. Such trends led to appearance of new problems and tasks in educational system. In conditions of new global economy future engineers should have the possibility to apply their knowledge and skills effectively. Herein transformation of public persuasions, confirmation of emergent values,

wide application of information and communication technologies transfers educational ascents from the adaptability principle on the principle of specialists competency (I. Zimniaia, N. Krednets, N. Bibik, A. Hutorskoi, A. Ovcharuk, A. Pometun and others).

Key directions of Bologna process or “basic reform triangle” are the adoption of three-cyclic system of higher education (successive earning a degree of bachelor, master and Doctor of

Philosophy (Ph.D), implementation of ECTS and assurance of qualitative education. Doctoral candidacy, which is spoken about in Bologna documents, in practice is an analogue of Ukrainian postgraduate training program, i.e. profound higher education, that is why one may often meet the notion “two-stage education” (bachelor degree course and master course). The choice of two-stage education system is not coincidentally, indeed exactly it is accepted in most of English-speaking countries [3, 6].

Let us pay special attention to master's programme of preparation of future engineers, which is devoted to creation of conditions for creative development of gifted person and preparation of specialists according to one of the functional line of activity [6]. Modern society requires from specialists the quickly adjust ability, improve their professional skills and also to use steadily modern ICT-means. That is why inseparable component part of improvement and renewal of master's programme is the adherence of development line of informative- communication competences of future specialists.

Considering this fact, the study of didactical development conditions of ICT-competences of master's students, in particular future engineers, acquired its actuality in research circles.

Under didactical conditions of development of informative- communication competences of master's students one should understand purposive selection and organization of circumstances of educational process, thanks to which, the development of mentioned competences will be successful.

Educational process is known to be the system, which has such components as: target, inspire- motivational, content-related component, operationally- pragmatist, control- regulative, estimative- effective. Each of the denoted components supposes the presence of affiliation with others, that is why application of informative-communication technologies in one sector of this system forms practicability of application of such technologies in the other one.

Involvement into educational system of mentioned technologies allows to realize effectively both general didactical (educative, pedagogic, evolutive) and narrowly-specialized aims, develop cognitive interests, promote intellectual growth (G.Sazonenko). Education-bringing-up process based on the modern informative-communication technologies creates

background for development of brand new culture of organization of teaching process.

Usage of new informational technologies allows creating comfortable working environment at the lecture, helps to awake creative elements in students, promotes the development of critical thinking and corresponding professional skills.

So, the first didactical condition of development of informative-communication competences of master's student, in particular future engineers, there arise implementation of informative-communication technologies into educational process in conditions of system approach.

Application of ICT is often connected with virtual education, but such technologies are not less important for traditional study. At the present day one may distinguish new specific teaching method - blended learning, when there combined traditional (relating to lectures) and virtual study on the base of network education courses.

Considering specificity of research – development of informative-communication competence of master's student – compelling need is here the application of appropriate means and elements of ICT by students during independent work. Considering that master's students are being prepared for the solution of specific professional tasks, including the ones of innovative character, peculiarities of their independent educational activity we may determine the directionality on the performance, creation and systematization of educational material, gaining certain experience.

The necessity of ICT implementation and development among the students of corresponding competences during work with such technologies is determined also by main tasks of Bologna process – creation of international universal education environment, the main advantage of which, is the presentation of work material in didactically standardized and formalized form and creation of conditions for usage of its content at any place and any time [1] – let us emphasize gradual involvement of students to the local digital resources concerning the discipline, realization of possibilities and advantages of such variant of presentation and data storage and also optimization of their educational activity (relating to lectures and independent). So, we come to a conclusion that application of ICT by master's students should be provided on the base of interdisciplinarity principles.

Actualization of interdisciplinarity principle in educational process allows realizing such factors of development of IC-competence:

- ability to solve complex tasks on the base of interdisciplinarity knowledge;
- development of creativeness due to transfer of notions, ideas and work methods from one subject area into another one;
- improvement of learning style and mental activity.

That is why let us define the second didactical condition of ICT development of master's students: observance of interdisciplinarity principle.

Mentioned condition provides development and systematic application of educational web-resource in the discipline, in particular for independent educational activity, usage of specialized methodology instructions for students, which are not oriented on the informational technologies as the subject for application of ICT technologies during study in order to improve perception of educational material and development of corresponding competences. Such condition is the factor, which improves independent work of master's students, forms corresponding skills among them concerning work with digital resources, allows to retain necessary volume of teaching information in complex on the one web-site, not overworking the students with irrelative online service providers.

Influence on the development of ICT of master's students should be systematic taking into account peculiarities of their educational activity and directed on the positive end result. This requires organization and periodic stage-by-stage control. That is why development of ICT should be based on the program of regular check with determination of requirements for the formedness of competences and further strategies of influence on them. That is why there is a necessity of systematic following of evolution dynamics of IC-competences of master's students. The possibility of analysis provides such type of process evaluation as monitoring. It fulfills some main functions, which allow to update program of development of ICT if necessary, replace the means, improve forms and means of study, detect basic trends: fixation of study results, diagnostic revelation of existing level of ICT formedness, emphasis on the basic concepts of topical unit, determination of main characteristics of quality of students' preparation [5]. As pedagogic technology monitoring allows not only to systematize obtained

data, but also to balance and coordinate ways of influence on this phenomena.

So, the third didactical condition for ICT development of master's students is involvement of pedagogical time-lapse technology.

All the didactical conditions (implementation of informative- communication technologies into educational process in conditions of systematic approach, observance of the principle of interdisciplinarity, involvement of pedagogic time-lapse technology for development of ICT master's students) will promote effective development of informative- communication competences of future engineers and will contribute to their personal and professional growth.

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