УДК 378.14:004

THE PECULIARITIES OF FORMING THE CONTENTS OF TRAINING MANUAL ON INFORMATION TECHNOLOGIES FOR THE FUTURE TEACHERS OF ARTS & HUMANITIES

Гуржій Андрій Миколайович –
доктор технічних наук, професор, дійсний член Національної академії педагогічних наук України, лауреат Державної премії України в галузі науки і техніки, заслужений працівник освіти України

Карташова Любов Андріївна –
доктор педагогічних наук, професор кафедри інформаційних технологій Київського національного лінгвістичного університету, lkartashova@ua.fm, http://lkartashova.at.ua/

The problems caused by fundamentally new requirements to pedagogical activity of modern teachers of foreign languages are examined in the article. The terms of development of training manual are marked as a constituent of the authorial system of teaching information technologies to students – the future teachers of foreign languages, whose task is forming readiness to use the information technologies(in professional activity and in self-training) as one of the necessary qualities of future teacher for today. Creation of textbook intended for the process of forming of professional IT-readiness, is an important task. His subject filling must provide the knowledgeable base of the professional use of IT by the future teacher, and structure – the organization of the process of teaching that would give possibility to provide an absolute achievement by all students the necessary level of IT-readiness and to part of students, who find out corresponding capabilities, advanced mastering of technologies and facilities of activity.

Keywords: information technology, educational book, content, education system, a student, a teacher in the future, humanitarian specialties, school, IT-readiness.

Introduction. Informatization is presently examined as one of the leading ways of modernization of the system of education and

must provide passing to realization of new aims of education, its new paradigm, which consists in the orientation of studies on development of personality, forming of capacities for self-development for all the subjects of teaching without an exception. Appearance of the National doctrine of education development, in which a new paradigm – orientation on the new type of humanistically-innovative education, its competitiveness in European and world spaces, education of the young generation, that will have necessary to the competence for studies during the life and will be apt at a personality world spiritually-view choice, is marked in that, became considerable progress.

Objective, socially predefined, transition processes to informative society require introduction of innovative methods of teaching and studies that will provide the competitiveness of the system of formation in Ukraine. Practical experience and results of the special pedagogical researches accumulated in the process of informatization of education show that the use of information technologies (IT) in education positively affects the results of educational process on all its levels [2; 3; 7].

In pedagogical activity, the systematic and system use of IT opens for the subjects of teaching access to application of modern technologies of master knowledge. Due to possibilities which provided by introduction of IT in an educational process, the system of education can replace authoritarian pedagogics by humanistic in which possibilities for taking into account and development of individual features of development of every person are created. Such pedagogics provides to the subject of teaching the right for originality and unicity. At the same time, inputs of innovative forms of teaching, use of IT must been self-considered, pedagogically expedient and inferior to the aim and main-

Лапінський Віталій Васильович –
кандидат фізико-математичних наук, доцент, керівник науково-дослідної теми відділу математичної та інформатичної освіти, провідний науковий співробітник Інституту педагогіки Національної академії педагогічних наук України, vit_lap@ua.fm, http://vlapinsky.at.ua/

tenance of teaching and education. Appearance of electronic educational resources (EER) as constituents of informatization of education provides availability of knowledge, developing intellectual and creative abilities of students on the basis of individualization of teaching, intensification of educational process and others like that [8]. Together with it, the necessary constituent of the system of teaching is remained by an educational book, maintenance and the structure of which must also change. The novelty of requirements to the subject filling of educational book consists in that it must not duplicate the content of EER but contain information that helps to systematize and generalize knowledge, organize the process of their acquisition.

Basic part. Application of IT in the teaching of Arts has its specific that is determined from one side, by very high efficiency of EER, and from other are the difficulties of mastering by teachers of Arts the facilities of IT. The use of electronic facilities of teaching at classes provides avoidance of monotony in the work of teacher and student at a class, visible presentation of objects and processes, use of video plots, possibility of operative exposure of level of educational achievements of students, differentiation and individualization of teaching [4]. A maximally possible achievement of the pre-arranged aims of teaching, development (forming) of key and subjective competence of teaching subjects is impossible without updating of the methodical systems by the use of modern IT in the educational process. Considerable experience of the use personal computer (PC) as means of teaching and IT as constituents of educational environment has accumulated in the USA, Canada, France, Bulgaria and Japan. Even with different approaches to organization and content filling of student's work on the computer, the received results are similar on the basic signs of educational process [9; 10; 11].

The training manual (textbook), intended for the training the future teachers of Arts must contain information that must convince the subject of teaching in expediency of the use of IT at the classes, contain the information shortly set forth below.

The use of IT helps a teacher to build the class newly, in the atmosphere, usual to the children who presently grow in surroundings of digital devices. The analysis of experience of application of IT in the process of teaching allowed defining such advantages [9]: "It helps a teacher to get down from a department and begin to listen and discuss instead of the simple "broadcasting" in the class. A teacher can induce schoolchildren to conduct independent researches, to think critically, to compare the different points of view, instead of simply memorizing lectures. A teacher can help schoolchildren to study and think together with the class-mates and schoolchildren of the whole world. A teacher can build a class, taking into account the individual features of every student".

It is observed: increase of duration and firmness of all types of attention in the process of work on the PC (including the use of the network of Internet resources) and large interest in new kinds and forms of converting activity; increase persistence, concentration on activity; a presence of a few types of motivation of

children's activity is in the environment of IT(interest in the new object of activity; research reason is a desire to find an answer to a question; reason of successful implementation of cognitive tasks; development of "cognitive flexibility" — capabilities to find the most number of fundamentally different ways of solving the educational tasks; developing the ability to anticipation, strategic planning; skills of group activity (a search of the common decision, overcoming of difficulties in communication); increase of the role of computer game as an instrument of diagnostics and rehabilitation).

The detailed consideration of constituents of informatization of teaching process points out to the presence of interconnection between technical providing of educational establishments with the computer rigging and preparation of skilled users (teachers and students).

A task to adaptation of students — future teachers of Arts (& Humanities) distinguished, to activity in the informative society through forming in the educational process of HPEE of corresponding competence in the branch of IT and readiness to the use of IT in professional activity. The anymore, that in the last few years is observed some fracture in consciousness of pedagogical concord — understanding of actuality of introduction IT appeared in the teaching of IM, in particular.

The result must be in development of the system of IT teaching of new type. Presently in our country, the preparation of IT-professionals conducted at the sufficient level. However, more difficult is a situation with IT-training the teachers of Arts; the majority of them, after our supervisions, have initial presentations as for the possibilities of IT in education; many of them use the PC only as the printed typewriter. We suggest distinguishing a few ways of solving the mentioned problem [6]. Firstly, creation of corresponding terms for the periodic increase of IT-level of teachers in establishments of post-graduate education, that must, having regard to the specific of IT, take place, at least, once in two years. Secondly, to work out the system of teaching IT to the future teachers in HPEE, that must be dynamic and open. It can explained by that in the system of education new educational possibilities are created not quickly enough in reply to the intensity of development of informative society. The training of teachers must be not going after, and even passing ahead – the openness and dynamic of the system of teaching will allow correcting it, adding and/or withdrawing components in accordance with development of IT and initial IT-level of freshmen.

Thus, it goes not about perfection of separate descriptions or constituents of training the future teachers, but about solving the problem of the system of IT teaching in HPEE in the whole: aims maintenance, methods, facilities, forms, technologies of teaching and others like that. Namely: development of the system of forming of IT-readiness (SITR) of future teachers with the aim of the methodical, technological and administrative providing of the educational process.

In offered SITR information technologies open up in four interconnected aspects: as educational discipline; as one of the main means of communication and getting knowledge from other industries; as means of transformation got information by every student into the personal system of knowledge, abilities and skills; as means of development and self-expression of personality of future teacher.

Its creation must go not only on the way of forming of technical support of educational process, and by integration three constituents: educational material, didactics innovations and information technologies.

For introduction of SITR the priorities give themselves up to forming the presentation of students about the essence of IT-knowledge, acquaintance of them with the ideas of informatization of education, by its role in cognition and transformation of reality, to providing of capture the system of knowledge and abilities in industries of IT, that have general, commonly-cultural aspiration foremost, and also needed for the successful use in future professional activity.

Planning and creation of SITR was executed taking into account the necessity of realization of educating influences that form both common to all man kind and the professionally directed qualities of personality. The basic are admitted such terms.

1. The system of educational influences provides greater efficiency, than traditional.

2. The table of contents of teaching meets the requirements set forth on the basis of analysis of professional activity of teachers of general educational establishments.

3. Structuring of contents of information technologies teaching provides, from one side, certain independence of the content modules, and from other is integrity and systematic character of teaching of IT.

4. Structuring of educational material provides its availability to the students with the different levels of initial preparation in industry of IT.

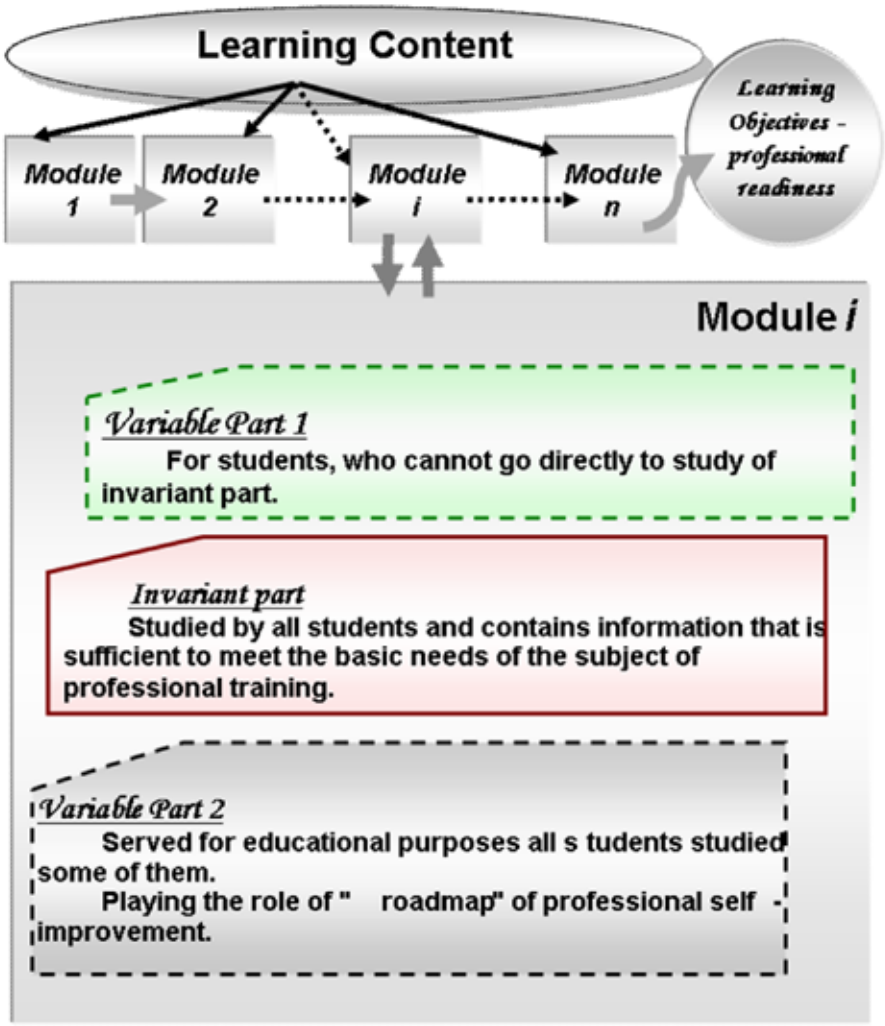
5. The invariant constituent of every content module contains professionally meaningful knowledge and provides the sufficient level of formed abilities and skills.

6. The variant part of every content module contains two constituents, the first from which must perform the compensatory duty and provides availability of invariant constituent for students with lower level of preparedness, and second - provides forming of perspective lines of development (professional and general) of student's personality, forming as possible of higher level of mastering by him IT.

7. Forming the content of the semantic modules envisages possibility of effective educational process control.

8. The educational elements of every block contain corresponding facilities, that will be used both for monitoring of teaching and for creation of orientation basis of educational activity of student, reflections promote, to self-control by the students of own level of preparedness.

In its turn, considerable differences in the levels of knowledge and abilities of students in IT, personal qualities of students: speed of perception of educational material, duration of arbitrary attention and others like that, caused the necessity of selection of invariant and variant constituents of educational units. Educational material of every module is given as invariant (base) and variant parts (Pic. 1) [5]. Variant part is also structured: two parts conditionally adopted "variant part 1-th" and "variant part 2-th" are distinguished. Invariant part is obligatory for implementation, contents of this constituent provides realization of requirements of state education standard.



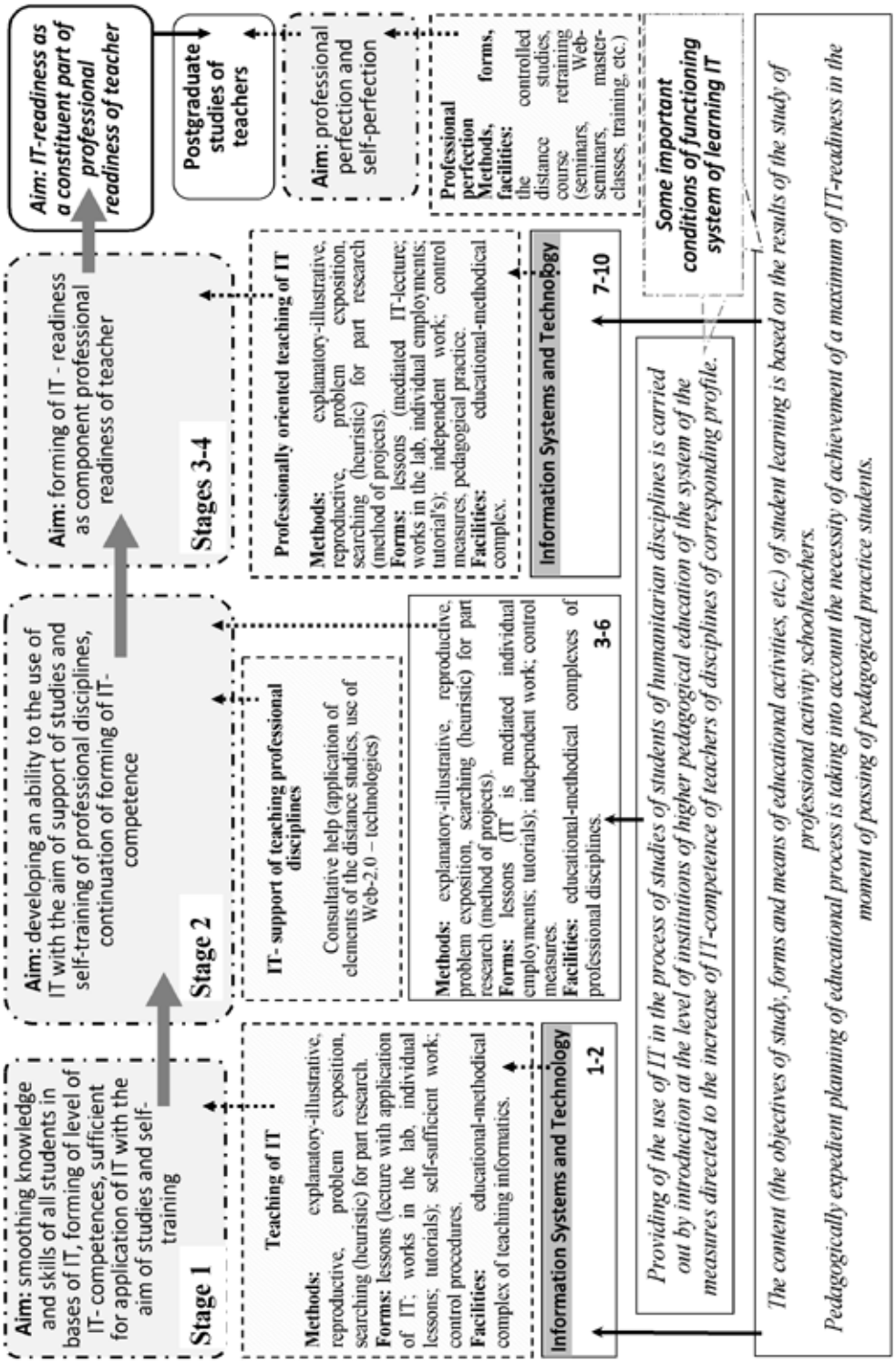
Pic.1. **Structuring of teaching contents is within the limits of one semantic module**

Variant parts are elected, coming from personality capabilities, interests, and readiness of every student. Variant part 1 is studied by students who cannot at once pass to the study of invariant constituent. The table of contents of variant constituent 1 provides leveling of preparation of students to beginning of study by them the educational material of invariant constituent. The table of contents of variant constituent 2 provides the higher level of mastering of educational material, than it is envisaged by the standard of education, preparation of students to independent, close to scientific activity.

From practical experience, exactly the presence of variable part of educational block renders the most substantial influence on activation of independent work of students and provides differentiation of teaching. The offered system differs from the systems technologies, worked out and described before that envisages: intensive application of facilities and methods of IT both in quality of objects of study and in quality of component technologies of teaching; organic combination of individual and group forms of educational activity of students.

For introduction of module organization of SITR and sectional structuring of the contents the level of knowledge and previous preparation of student is taken into account on this discipline, that is why the duration of process of teaching for every student will depend on the rate of his mastering the educational material that in turn, depends on personal descriptions of student. Obviously, that offered SITR is personally oriented – the process of teaching comes true in such rate that is accessible to the certain student, every student can elect the individual trajectory of studies. Together with application of module organization of the system this teaching it gives an opportunity to provide internal distribution of academic group of students into subgroups according to the level of their knowledge of IT, level differentiation of teaching.

At the same time, the necessary result of teaching IT firstly, is ability to work on the PC. It includes: ability to use facilities of the operating system for management of the file system, to put right facilities of registration and management the operating system, use the standard application programs. Secondly, ability of student, as a future teacher, to use the PC in professional activity, that is, to use application software and electronic educational resources for a study and increase the level in industry of IT. It means that depending on the put tasks the teacher must be able independently to make decision about that, what software he needs for this or that class, and what tasks can be solved with its application. The finishing stage of teaching is the system of measures that actualize the gained knowledge, abilities and skills additionally. The professional orientation of the indicated measures (in particular, on the educational process of publicly-humanitarian subjects in GEE) assists not only fixing and systematization of gained knowledge, but forms the necessity of continuation of studies (Pic. 2) in most students.



Pic. 2. **The system of formation of readiness for use of IT in the future teachers**

Thus, depending on the educational necessities of every student, his cognitive abilities, personality capabilities the individual trajectory of teaching lines up. In addition, specific gravity of the individualized forms of teacher's work increases with every student in combination with group and collective ones. A teacher elects forms and structure of classes, methods of teaching, following by their pedagogical expediency and other factors that predetermine the increase of effectiveness of teaching and education of students.

Current control according to the level of educational achievements comes true by a teacher based on certain criteria of evaluation of educational activity of students. The aims of practical studies with a professional orientation serve to forming of IT-readiness, aim of general education and mental development related to computer education, and whole educations serve to forming of IT-culture that provides forming of IT-competence of future teachers in the whole.

By the fundamental factor, that was taken into account in development of SITR is the personality of student with the certain necessities and interests, his vision of the world and valued orientations. It should especially follow to distinguish the additional effect of application of the system that consists in popularization of IT studies not only among students but also among teachers whose educational activity is unconnected with IT.

Introduction of SITR is suggested to put in basis to realization of strategic directions of activity of HPEE in the industry of informatization of pedagogical education with the aim of providing: forming of IT-readiness of future teachers; methodical support and possibility of the continuous increase of training teachers in industry of IT; to access of students and teachers to the high-quality local and network educational informative resources; possibilities of realization of testing and evaluation of results of teaching with the use of the specialized software; connecting of HPEE to the global informative resources; to passing to the system of open education on the basis of the distance technologies of teaching; stage-by-stage passing to integration of the traditional departmental teaching in HPEE with new organization of pedagogical education on the basis of information technologies.

The mentioned stages of teaching must be represented in both contents of educational book and its structure. At the same time, structuring of training manual cannot be too difficult, as the basic requirements will be broken to it as to the educational book. In accordance with structuring of the educational process represented on pic.2, possible creation not one, but, at least, two educational books - for the stage 1 and stage 3, or association of them in one manual. Creation of such manual as a constituent of educational complete set, to which include also specifically computer facilities of teaching, can be considered a near-term task.

Conclusion. The necessary constituent of professional preparation of modern teacher is his professional IT-readiness that is based on the competence of informatics. An achievement of such combination is possible on condition of introduction of the system of training the future teacher the professional activity in the modern informed educational environment. In the context of the authorial system of information technologies teaching possibilities of forming of scientific world view and qualities of personality of future teacher are reasonable with the aim of providing of his readiness to realization and introduction of the personality orientated studies.

Creation of textbook intended for the process of forming of professional IT-readiness, is an important task. His subject filling must provide the knowledgeable base of the professional use of IT by the future teacher, and structure – the organization of the process of teaching that would give possibility to provide an absolute achievement by all students the necessary level of IT-readiness and to part of students, who find out corresponding capabilities, advanced mastering of technologies and facilities of activity.

References

1. *Hurzhii A.M.* Osnovni pidsumky vykonannia Derzhavnoi prohramy prohnozuvannia naukovo-tekhnichnoho tainnovatsiïnoho rozvytku v Ukraïni / A.M.Hurzhiï // Nauka ta naukoznavstvo. – 2006. – № 3.
2. *Hurzhii A.M.* Teoretychni napriamy informatyzatsiï zahalnoosvitnikh navchalnykh zakladiv [Tekst] / A.M. Hurzhiï // Pedahohichna ta psykholohichna nauky v Ukraïni. Zbirnyk naukovykh prats do 15-richchia APN Ukraïny u 5 tomakh. / Tom 5. Neperervna profesiïna osvita: teoriya i praktyka. – K. : "Pedahohichna dumka", 2007. – 392 s.
3. *Hurzhii A.M., Kartashova L.A., Lapinskyi V.V.* IT-hotovnist vchyteliv inozemnykh mov: metodolohiya, teoriya, tekhnolohiï: navchalnyi posibnyk. K. : Instytut obdarovanoyi dytyny , 2013. – 230 s.
4. *Kartashova L.A.* Formuvannia indyvidualnoyi traektoriï navchannia yak odna z osnovnykh zadach upravlinnia navchalnoyu diyalnistiu studenta/ Stratehiya uptavlinnia zakladamy osvity v umovakh formuvannia infomatsiïnoho suspilstva: Materialy IV Naukovo-praktychnoyi konferentsiï 1-9 hrudnia 2005r, Kyiv-Chernihiv-Nizhyn. – 2005. – S.66-68.
5. *Kartashova L.A.* Stvorennia umov formuvannia hotovnosti maibutnikh vchyteliv inozemnykh mov do vprovadzhennia zasobiv informatsiïno-komunikatsiïnykh tekhnolohiï u navchalno-vykhovnyi protses// Pedahohichnyi protses// Pedahohichnyi protses: teoriya I praktyka. – Zbirnyk naukuvykh prats. – Kyiv.: Vydavnytstvo "EKMO". – S.74-84.

6. *Lapinskyi V.* Kompyuterno-oriyentovane navchalne seredovyscheta vymohy do yoho reakizatsiï/ V. Lapinskyi, M.Shoot // Naukovi zapysky. – Vypusk 77.- Seriya: Pedahohichni nauky.- Kirovohrad: RVV KDPU imeni V. Vynnychenka. – 2008. – Chastyna 1. S.79-85.

7. *Lapinskyi V.V.* Pedagogicheskiye trebovaniya k tsyfrovym obrazovatelnym resursam // Sovremennyye dostizheniya v nauke i obrazovanii : sb. trudov III Mezhdunar. nauch.konf., 16-23 sent. 2009g., g. Tel-Aviv (Izrail)/ - Hmelnitskiy : HNU, 2009. – S.163 – 165.

8. Obrazovatelnaya sistema Portugalii obognala SSHA I Rosiyu. [Elektronnyi resurs] Sait OOO "RDV-Media". Учеба \ Образование за рубежом \ Полезно знать об образовании за рубежом \ Obrazovatelnaya sistema Portugalii obognala SSHA i Rosiyu? 22:23 11.08.2009 Rezhim dostupa : http://www.ucheba.ru/abroad-article/10626.html

9. *Polat Ye.S.* Sovremennye pedagogicheskie I informatsionnye tekhnologii v sisteme obrazovaniya : ucheb. posobie dlya stud. vyssh. ucheb.zavedeniy / Ye. S. Polat M.Yu. Buharkina. – 29-ye izd., ster. – M. : Izdatelskiy tsentr "Akadenia", 2008. – 368 s.

10. Pro rezultaty Vseukrainskoho eksperymentuschodo navchannia vchyteliv efektyvnomu bykorystanniu informatsiïno-komunikatsiïnykh tekhnolohiï u navchalnomu protsesi ta perepidhotovku pedahohichnykh pratsivnykiv [Elektronnyi resurs] Iz holovnoyi storinky saïtu Intel® "Navchannia dlya maïbutnioho". Rezhym dostupu http://www.iteach.com.ua/mediawiki/index.php/

Список використаних джерел

1. *Гуржій А. М.* Основні підсумки виконання Державної програми прогнозування науково-технологічного та інноваційного розвитку в Україні / А.М. Гуржій // Наука та наукознавство. – 2006. – № 3. – С. 7–10.

2. *Гуржій А. М.* Теоретичні напрями інформатизації загальноосвітніх навчальних закладів [Текст] / А. М. Гуржій // Педагогічна і психологічна науки в Україні. Збірник наукових праць до 15-річчя АПН України у 5 томах. / Том 5. Неперервна професійна освіта: теорія і практика. – К. : «Педагогічна думка», 2007. – 392 с.

3. *Гуржій А. М., Карташова Л. А., Лапінський В. В.* ІТ-готовність вчителів іноземних мов: методологія, теорія, технології: навчальний посібник. К. : Інститут обдарованої дитини , 2013. – 230 с.

4. *Карташова Л. А.* Формування індивідуальної траєкторії навчання як одна з основних задач управління навчальною діяльністю студента/ Стратегія управління закладами освіти в умовах формування інформаційного суспільства: Матеріали IV Науково-практичної конференції 1-9 грудня 2005р, Київ-Чернігів-Ніжин. – 2005. – С.66-68.

5. *Карташова Л. А.* Створення умов формування готовності майбутніх вчителів іноземних мов до впровадження засобів інформаційно-комунікаційних технологій у навчально-виховний процес// Педагогічний процес: теорія і практика. – Збірник наукових праць. – Київ.: Видавництво "ЕКМО". – 2008. – С.74-84.

6. *Лапінський В.* Комп'ютерно-орієнтоване навчальне середовище та вимоги до його реалізації/ В. Лапінський, М. Шут // Наукові записки. – Випуск 77. – Серія: Педагогічні науки. – Кіровоград: РВВ КДПУ імені В. Винниченка. – 2008. – Частина 1. – С.79-85.

7. *Лапинский В. В.* Педагогические требования к цифровым образовательным ресурсам // Современные достижения в науке и образовании : сб. трудов III Междунар. науч. конф., 16–23 сент. 2009 г., г. Тель-Авив (Израиль). – Хмельницкий : ХНУ, 2009. – С.163 – 165.

8. Образовательная система Португалии обогнала США и Россию. [Электронный ресурс] Сайт ООО «РДВ-Медиа». Учеба \ Образование за рубежом \Полезно знать об образовании за рубежом \ Образовательная система Португалии обогнала США и Россию? 22:23 11.08.2009 Режим доступа : http://www.ucheba.ru/abroad-article/10626.html

9. *Полат Е.С.* Современные педагогические и информационные технологии в системе образования : учеб. пособие для студ. высш. учеб. заведений / Е. С. Полат. М. Ю. Бухаркина. – 2-е изд., стер. – М. : Издательский центр «Академия», 2008. – 368 с.

10. Про результати Всеукраїнського експерименту щодо навчання вчителів ефективному використанню інформаційно-комунікаційних технологій у навчальному процесі та перепідготовку педагогічних працівників. [Електронний ресурс] Із головної сторінки сайту Intel® «Навчання для майбутнього». Режим доступу http://www.iteach.com.ua/mediawiki/index.php/

Гуржій А. М., Карташова Л. А., Лапінський В. В.

ОСОБЛИВОСТІ ФОРМУВАННЯ ЗМІСТУ НАВЧАЛЬНОГО ПОСІБНИКА З ІНФОРМАЦІЙНИХ ТЕХНОЛОГІЙ ДЛЯ МАЙБУТНІХ ВЧИТЕЛІВ-ГУМАНІТАРІЇВ

У статті розглядаються проблеми, викликані принципово новими вимогами до педагогічної діяльності сучасних вчителів гуманітарних предметів. Означено умови розроблення навчального посібника як складника авторської системи навчання інформаційних технологій студентів – майбутніх вчителів, завданням якої є формування готовності до використання інформаційних технологій (у професійній діяльності й у самонавчанні) як однієї із неодмінних, на сьогодні, якостей майбутнього вчителя.

Ключові слова: інформаційні технології, навчальний посібник, система навчання, студент, майбутній учитель, гуманітарні спеціальності, навчальний заклад, особистість.

Гуржий А. Н., Карташова Л. А., Лапинский В.В.

ОСОБЕННОСТИ ФОРМИРОВАНИЯ СОДЕРЖАНИЯ УЧЕБНОГО ПОСОБИЯ ПО ИНФОРМАЦИОННЫМ ТЕХНОЛОГИЯМ ДЛЯ БУДУЩИХ УЧИТЕЛЕЙ-ГУМАНИТАРИЕВ

В статье рассматриваются проблемы, вызванные принципиально новыми требованиями к педагогической деятельности современных учителей гуманитарных специальностей. Определены условия разработки учебного пособия как необходимой части системы обучения информационным технологиям студентов – будущих учителей гуманитарных специальностей, целью создания которой является формирование готовности к использованию информационных технологий в профессиональной деятельности и в самообучении как одной из непременных качеств современного учителя.

Ключевые слова: информационные технологии, учебное пособие, система обучения, студент, будущий учитель, гуманитарные специальности, учебное заведение, личность.