

The Use of Information Technologies for the Development of Competences in Future Teachers of Foreign Language and Foreign Literature

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Abstract

The article deals with possible ways of using information technologies in teaching future teachers of foreign language and foreign literature. It is established that the primary task of the organizer of the educational process is to build an educational process with a view to facilitating the development of the competences necessary for the future teachers of foreign language and foreign literature. The latest information technologies are analysed and the effective ways of their use are suggested. It was found out that information technologies actively contribute to the unique function of preparing the future specialist for the quality realization of educational services in the information and digital space. It is researched that the functional approach to the analysis of IT in the context of the educational process outlines the specific scientific basis of the proposed scientific search, which allows to organically combine the postulates of media-oriented education with cognitive and communicative principles in the study of the ways of using IT in teaching teachers of foreign language and foreign literature. According to the guidelines of this approach, the functional purpose of IT influences the processes of formation of the form and value of the obtained knowledge. An important element in describing the use of IT is the principle of consistency. It is confirmed that the general competences of future teachers of foreign language and foreign literature are represented by both subject and general competencies, where IT competence is ranked as one of the top priorities. It implies the teacher's ability to use information technology in the course of his/her professional activities effectively and appropriately. Information technology competence, in turn, is divided into three main competences, which correspond to the separate activities of teachers of foreign language and foreign literature: general, diagnostic and subject-oriented. Examples of tasks aimed at forming different types of competences in future teachers of foreign language and foreign literature with IT involvement are given. It is proved that the use of information technologies in the process of realization of educational and professional training of future teachers of foreign language and foreign literature contributes to a more effective fulfilment of the basic curriculum assignments, in-depth study of the content of the studied discipline, optimization of self-education and self-development of the level of future specialists, an individual way of perceiving information and working with it.

Keywords: competence development tools, information technology, creolized text, media competence, digital education, foreign language education, language training

1. Introduction

1.1 Problem Statement

The modern world imposes a number of requirements for the list and quality of competence development for future teachers of foreign language and foreign literature. Media competence is a top priority (Andrushchenko, 2004). The ability to effectively interact with the media space, finding the most effective ways to use information technology (IT) during the educational process, understanding the meanings of audiovisual images and, as a consequence, more professional and confident handling of numerous information flows are the foundations of modern educational process, thus predetermining topicality of this research. The modern era considers digital education (E-learning) primarily as a process of personal development with the help and on the material of information digital technologies with the purpose of forming a culture of communication with media, creative and foreign language skills,

communicative abilities, critical thinking, skills of full perception, interpretation, analysis evaluation of media texts, teaching different forms of self-expression through IT (Almajali, Masa'deh & Al-Dmour, 2016; Almajali, Masa'deh & Al-Lozi, 2016; Almajali, Masa'deh & Tarhini, 2016; Chen & Chung, 2007; Grant, 2011; Maqableh, Mohammed, & Masa'deh, 2016)

The use of IT is intended to perform the unique function of preparing the future specialist for the quality realization of educational services in the information space (Hurevych, 2012). A successful history of analysing the phenomenon of media education offers numerous advances in the scientific systems of different subjects. However, the particularities of using IT to build competencies for future foreign language and foreign language teachers have not yet been the subject of a thorough scientific research. Given the scope of the concept of "information technology" and its classification, we offer an analysis of the use of IT in the context of teaching activities by the class of implemented technological operations covered by new IT: work with graphic objects, multimedia systems and hypertext systems (Gritsenko, 2010).

1.2 Theoretical Background

Studies of the use of new IT in the teaching process and its influence on the development of necessary competences can be found in the works of local and foreign researchers (Archer et al., 2014; Bykov, 2008; 2013; Grant, 2011; Gritsenko, 2010; Halich, 2010; Kademina, Kozyar & Rak, 2011; Petko, 2012; Plish, 2012; Tverezovska, 2009). Aspects of philosophical understanding of the use of IT in the learning process are covered in the works (Bohachkov et al., 2015; Shevchenko, 2008; Zachko & Rak, 2008). Features of the use of modern multimedia tools in the context of teaching methodology are explained by Bohachkov et al. (2015) and Tverezovska (2009). Certain scholars consider the practicalities of new IT in the teaching process, i.e. Aristovnik (2012), Mumtaz (2000), Zerrella and Zerrella (2011).

A critical review of the works dealing with the use of IT in education allows making the following conclusions:

1. The pedagogical features of IT in the context of the educational process are (Andrushchenko, 2004; Machynska & Komarova, 2015):

- Building a personalized computer-driven learning environment;
- Individually oriented software for the application of special teaching methods;
- Integration of learning subjects in a survey modus based on existing software and hardware.

2. The use of IT in the learning process provides the following opportunities (Plish, 2012; Poyasok, 2009; Tverezovska, 2009; Zerfaß & Pleil, 2015):

- Formation of dynamic interaction of the subjects of education;
- Supporting the dynamic interaction of the teacher as a moderator of the educational process with the subjects of education;
- Promoting the attentiveness and activity of participants to the educational process;
- Combining learning processes and evaluating learning results at different stages;
- Recording the level of success as a whole and the individual results of participants to the educational process.

3. New IT includes tools that realize the following opportunities (Shyshkina & Popel, 2013; Tverezovska, 2009; Zerrella & Zerrella, 2011):

- Free choice of implementation of the educational material in view of the planned objective of the learning activities;
- Individually-oriented survey in the process of current and final certification;
- Use of standardized methodological techniques of the survey based on the material of test technologies for the purpose of pedagogical diagnostics of participants to the educational process.

4. IT software realizes the following features (Kademina, Kozyar, Kobysya & Koval, 2010; Kozak, 2014; Zachko & Rak, 2008):

- Import of Powerpoint slides, texts, files, information formats;
- Exporting (moving) information of different formats to Excel or Webct;
- Use of e-mail to communicate with the subject of education;

- High-speed data transmission required for the use of multimedia hardware.

However, it is worth noting that the results of a comprehensive study of the use of IT to form competencies in future teachers, including teachers of foreign language and foreign literature, are poorly studied, which determines the topicality of our study.

The objective of the proposed scientific research is to substantiate possible ways of using IT for the development of competences in future teachers of foreign language and foreign literature in the context of modern digital education.

2. Materials and Methods

We conducted our study in several stages. Each stage aimed at achieving the relevant objectives:

1. The first stage involved the theoretical literature review on the researched problem. At this stage, we studied philological and pedagogical literature, which allowed us to describe and detail the conceptual framework of research, systematization and synthesis of theoretical and empirical data used to outline the real state of application of IT in training future teachers of foreign languages and foreign literature.
2. At the second stage, we made generalizations for the study and interpretation of theoretical sources on a researched problem, results of activity of students, identification of regularities, presenting results, and drawing conclusions.
3. The third stage was characterized by the analysis of the process and products of activity — we provided examples of assignments aimed at developing different types of competencies of future teachers of foreign languages and foreign literature with the use IT on the topic “Time and Space Organization of Ray Bradbury’s Novel Dandelion Wine”.

Our research is based on the general scientific methodological principle of anthropocentrism, according to which a subjective factor takes on the determining role in all spheres of human activity. Functional approach to the analysis of IT in the context of the educational process outlines the specific scientific basis of the proposed scientific search, which allows to organically combine the postulates of media-oriented education with cognitive and communicative principles in the study of ways of using IT in teaching teachers of foreign language and foreign literature. According to the guidelines of this approach, the functional purpose of IT influences the processes of formation of the form and value of the acquired knowledge. An important element in describing the use of IT is the principle of consistency. All stages of the work are characterized by the consistent use of inductive method, according to which the scientific search is implemented in the direction “from the analysis of particular material to generalizations and conclusions”, and the theoretical background is substantiated in details and illustrated by practical data. In addition, we use the following theoretical methods: the analysis of philosophical, pedagogical and psychological literature, which allow us to describe and detail the conceptual framework of research, systematization and synthesis of theoretical and empirical data used to describe the real state of the possibility of applying IT in teaching future teachers of foreign language and foreign literature.

3. Results

The role of IT in the learning process is predicted and undisputed due to the active implementation of computer equipment and innovative multimedia tools, which demonstrate a significant impact on the content of activities of the subjects of the educational process (Bykov, 2008; Dalton & Devitt, 2016; Darawsheh, AL-Shaar & AL-Lozi, 2016; Dinçer, 2014). The development of science and technology requires, however, a continuous search for new tools of teaching methods. The main problems of today are the search for channels of intensification of cognitive activity, formation of motivational environment for the subjects of the educational process. In view of the actively growing volumes of information and in order to improve the quality of its assimilation, there is a need for new learning tools and technologies. One such tool is IT. The development of computer technologies allowed applying them effectively in the following vectors of educational activities: the use of reference information and expert systems with the help of computer hardware to store, search and interpret information flows (Cabinet of Ministers of Ukraine, 2013; Grant, 2011).

Applied software products that find application in the educational process must have the following properties:

- Maximum accessibility for all subjects of the educational process;
- Easy-to-use interface;
- Realization of numerous it opportunities for transfer of educational contents, i.e. text and graphic images, static and dynamic forms, colour and sound accompaniments;

- The ability to choose the level of complexity and content of educational information;
- Availability of the required list of service options for prompt copying, storage and processing of educational material;
- Openness to manipulation by other technical means, which will ensure adaptation to the actual conditions of the educational process;
- Compliance with all the latest didactic requirements;
- Provision of a variant of functioning as a means of a local network with the centralized storage of the results of information processing, and on separate, not interconnected means of communication, IT;
- Taking into account ergonomic factors;
- Interface available in the language used in the educational process.

The main didactic functions that can be implemented with the help of IT in the process of teaching future teachers of foreign literature and foreign language are the following: cognitive (IT is used as a source of knowledge, contributes to quality informational preparation for the educational process), developmental (improvement of computer skills, activation of cognitive interests), research (carrying out literary and linguistic researches with the help of modern IT), training (independent verification of acquired knowledge by means of IT), diagnostic (checking the level of knowledge acquired at any stage of education), communicative (activating the process of communication through social networks, mobile applications and telecommunications projects).

The following groups of competences are distinguished in the context of the development of professional competence of the future teacher of foreign language and foreign literature: social, multicultural, communicative, self-development and self-education, productive creative activity, computer science (integration of knowledge about basic methods of computer science and information technologies) (Figure 1).

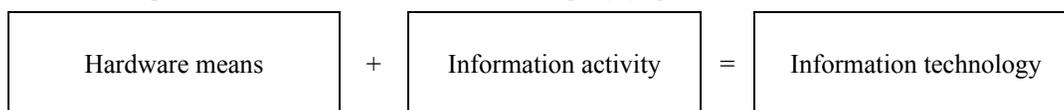


Figure 1. Components of informational technology

Three main clusters were distinguished in view of the proposed distribution of IT analysis by class of technological operations implemented in the context of competency development in future teachers of foreign language and foreign literature: work with graphic objects, multimedia systems and hypertext systems. Based on the material of the selected clusters, we offer a list of the most effective IT in the context of the analysed range of problems (see Table 1).

Table 1. Use of different types of IT as a means of competence development in teachers of foreign language and foreign literature

IT type	Advantages	Application mode	Assignment examples
Electronic textbook	Convenience and mobility in use; volume; possibility of editing; visualization of the material presented; increase in efficiency of assimilation of the material presented: development of object-content, object-reflexive and reflexive fragments of educational activity.	Use online and offline.	<ol style="list-style-type: none"> 1. Working-out of lexico-grammatical material without verification; 2. Working-out of a certain theoretical and literary studies or artistic discourse fragment with subsequent verification, when a list of questions is offered at the end of each structural unit (paragraph or topic) that allows to determine the degree of assimilation of the material; 3. Test control intended for the final control of students' knowledge with allotting the marks.

<p>Statistical and dynamic tables</p>	<p>Easy to scale and edit; calculating the required quantitative data; the visualization of the material presented.</p>	<p>Use online and offline.</p>	<p>1. Demonstration of the dynamics of a particular linguistic or literary phenomenon or concept in diachrony or synchrony; 2. Possibility of calculating the frequency of a particular lexical unit or phenomenon (for the purpose of conducting linguistic, literary studies); ... etc.</p>
<p>Literary portraits</p>	<p>Multisensority</p>	<p>Use online and offline.</p>	<p>1. Demonstration of the life and creative path of the poet or writer; 2. Demonstration of the genesis of a literary hero; ... etc. 3. Analysis of the basic translation techniques used in translating the text of the original... etc.</p>
<p>Test assignments</p>	<p>Generalization of the material studied, objectivity of verification and evaluation of the results.</p>	<p>Use online with the help of an interactive board, offline use on a computer.</p>	<p>1. Define the grammatical concept; 2. Establish correspondence; 3. Name the work, retell the work, the author, etc.</p>
<p>Virtual tours</p>	<p>Visualization of a certain literary or linguistic theme, giving up new horizons of the subjects of the educational process.</p>	<p>Videoplot in online and offline modes.</p>	<p>1. Watch a video story on a YouTube channel about a particular author, hero or literary work. 2. Make a virtual tour in the museum of a particular country by link; 3. Creation of a virtual tour by means of audio and video files on a particular topic of linguistic or literary studies; ... etc.</p>
<p>Multimedia presentations</p>	<p>Interactivity, multimedia. Increasing interest in a specific lexical or grammatical topic, a particular author or literary work, visualization of educational material, development of creativity; multiplicity and systematicity of observation in view of specific linguistic and literary studies issues</p>	<p>Use online and offline.</p>	<p>Choice of theme and arbitrary formation of multimedia content.</p>
<p>Electronic libraries</p>	<p>Interactivity, efficiency of access to information resources, promptness.</p>	<p>Use online by a link.</p>	<p>Given the purpose of visiting a particular website.</p>
<p>Webinars</p>	<p>Remotability, interactivity, accessibility for all subjects of the educational process, saving time.</p>	<p>Use online.</p>	<p>Attending a seminar on a particular topic using web technologies.</p>
<p>E-mail</p>	<p>Remotability, interactivity, speed of exchange of information streams, documents.</p>	<p>Use online.</p>	<p>1. Creation of a text document on a particular lexical or grammatical subject, with its subsequent submission; 2. Perform a particular task that has been received via e-mail; ... etc.</p>

In the context of the range of problems under study, one should also pay attention to the concept of “creolized text”, which is a complex textual formation where verbal and non-verbal elements form a single visual structural integrity (Blau & Hameiri, 2010; Poyasok, 2009). The following variants of creolized text are relevant for teaching future specialists of foreign language and foreign literature: book trailers (commercials that provide a video review of particular book products), comics, motivators/demotivators, posters, booklets, photo collages, logos, doodles (a Google screensaver that visualises, for example, a famous writer or literary hero), scrapbooking (photo design, clips for pages or albums, for example, on a literary work), cardmaking (handmade postcards), etc. The proposed text varieties are created and demonstrated mainly through IT and can be actively used during the educational process. Among the most requested programs, the following programs are generally used to create the varieties of text and text documents that future teachers should be familiar with (Chen & Chung, 2007; Kademia et al., 2011):

1. E-Mail - one of the most popular and requested Internet services;
2. Google, Yahoo, Shukalka, Ukr.net – a large number of websites, web products, e-mail programs and blogs;
3. OfficeWord – a document creation program on your computer;
4. YouTube is one of the popular 2.0 technology services, a free video file service (view, create and share);
5. Skype – an Internet telephony channel for text and video communication;
6. PowerPoint – software for creating multimedia content that can be demonstrated and commented on;
7. Telegram – a messenger, software for computers, smartphones and tablets, allows creating text messages, transfer graphics, video and audio files, and make calls.
8. Facebook – a social network that started its operation primarily as a network for students. The service not only supports the exchange of information between users, but also provides access to world-renowned scholarship programs, educational resources, etc.;
9. Quizlet – a mobile application that helps to memorize notions, definitions, concepts, etc. that are pre-formed and transferred through mobile messengers to a subject or group of subjects in the educational process.

The proposed list of programs that can be used in teaching of future specialists in foreign language and foreign literature is not exhaustive and does not claim its completion. Digital education continuously produces new information technologies and ways of their application.

Here are some examples of assignments aimed at forming different types of competencies of future teachers of foreign language and foreign literature with the involvement of IT to the topic “Time and Space Organization of Ray Bradbury’s Novel *Dandelion Wine*”:

1. Analyse the phenomenon of chronotype in modern literary studies using available search engines and electronic libraries. The proposed assignment develops intellectual, informational, logical competence. In addition, it promotes the development of self-education and self-development competences.
2. Create a multimedia presentation of the chronotype of the house and the time spaces of summer and forest. An assignment of this type also contributes to the development of intellectual, informational and logical competences. Develops creativity and develops a research function, in particular, the multiplicity and systematic nature of observation in view of specific problems of literary studies.
3. Create a literary portrait of the author – Ray Bradbury. This assignment is characterized by the development of multisensory nature. Contributes to the development of general and professional competences in the future specialists of foreign literature.
4. Prepare scrapbooking (photo design, clips for pages or albums) on the topic of the proposed literary work. Develops creativity and research function. Contributes to the formation of an individual approach to the assignment.
5. Analyse the most frequently used lexical means by Ray Bradbury’s proposed work and submit their translation through the Quizlet mobile application. Promotes effective memorization of lexical material.

In our opinion, the proposed list of assignments with the use of IT can be generated according to these vectors, in view of the fantasy and motivation of the subjects of the educational process, and serve to develop key and professional competences in the preparation of future teachers of foreign language and foreign literature. Such assignments will contribute to the development of independence, ability to analyse, synthesize and summarize information, to develop a culture of communication with the use of IT, creative, communicative abilities, critical thinking.

4. Discussion

Analysing the study, it should be noted that IT is a universal tool in the training of future foreign language and foreign literature specialists (see Table 1) and can be effectively used in teaching any general subjects in classes which differ in organization and content, in particular, in teaching foreign languages and foreign literature (Fedoruk, 2008; Shyshkina & Kogut, 2013) When studying certain topics, it is important to identify the form of educational activity that is most consistent with IT. These are lectures, practical, laboratory and seminar classes, independent work, supervision, etc.

We believe that IT enables the most effective realization of all types of educational activities. As a general example and result of our scientific research, we present the following general scheme of delivering lessons in foreign literature and foreign language using IT:

1. Teachers deliver lectures using IT. Lecture demonstrations require powerful technical equipment. The use of a computer, an electronic interactive board, or the demonstration of a lecture material through a network directly in a computer classroom greatly expands the content richness of educational texts. Such lectures are especially relevant in distance education (Shevchenko, 2008).
2. Conducting practical classes and seminars with the use of IT. The use of multimedia systems, a number of programs supporting the educational process, information and reference systems, mobile applications can and should be used as tools for future professionals to independently solve problems in the subject under study, stimulate research interest and develop a creative approach to completing the assignments (Archer et al., 2014; Aristovnik, 2012; Bohachkov et al., 2015; Bykov, 2013; Halich, 2010).
3. Control tests of acquired knowledge and skills using IT. Such controls can be carried out during tests, examinations, defence of term papers and graduation works. IT contributes to the effective implementation of all types of control: current, thematic, boundary and final (Fedoruk, 2008; Shyshkina & Kogut, 2013).
4. Conducting research and methodological seminars and conferences aimed at improving the scientific and professional qualification of future foreign language and foreign literature specialists with the use of IT, i.e. on-line and off-line technologies, audio conferencing, video conferencing, teleconferences, (Almajali et al., 2016b; Hurevych, Kademina & Shevchenko, 2007; Kademina et al., 2010).
5. Independent or distance study of the subject by future specialists with the use of IT (Almajali et al., 2016a; Chen, 2006; Kosohova, 2008; Shyshkina & Kogut, 2013).

The competences of future teachers of foreign language and foreign literature are represented by both subject and general competencies, where IT competence is ranked as one of the top priorities. It implies the teachers' ability to use IT effectively and appropriately in their professional career. IT competence, in turn, is divided into three main competencies that are relevant to the specific activities of teachers of foreign language and foreign literature: general, diagnostic and subject-oriented. General competence implies the teacher's ability to use IT to ensure a successful learning process, creating multimedia content or different documents, charts, tables, etc. Diagnostic competence demonstrates the teacher's ability to analyse the results of the educational process. Subject-oriented competence is a testament to the professional ability to use IT during the educational process, combining ready-made electronic products with the content and subject matter of the lesson. Thus, as the analysis shows, IT competence determines the ability of specialists to apply IT in a practical activity, both to meet their own needs and to solve professional problems in the context of the subject area (see Figure 2).

Modern teacher of foreign language and foreign literature should be familiar with the elements of theoretical and experimental (trial) study in the professional field and methods of their implementation, to know the state standard of general secondary education, training programs on foreign language and foreign literature for comprehensive schools and their implementation in different types of curricular and extracurricular activities, have creative-critical thinking, creatively use different theories and experience (domestic, foreign) in the process of solving the social and professional tasks, using modern methods and technologies (including IT) to ensure the quality of the educational process. IT contributes to the active formation of all groups of competences: social, multicultural, communicative, self-development and self-education, productive creative activity, informative.

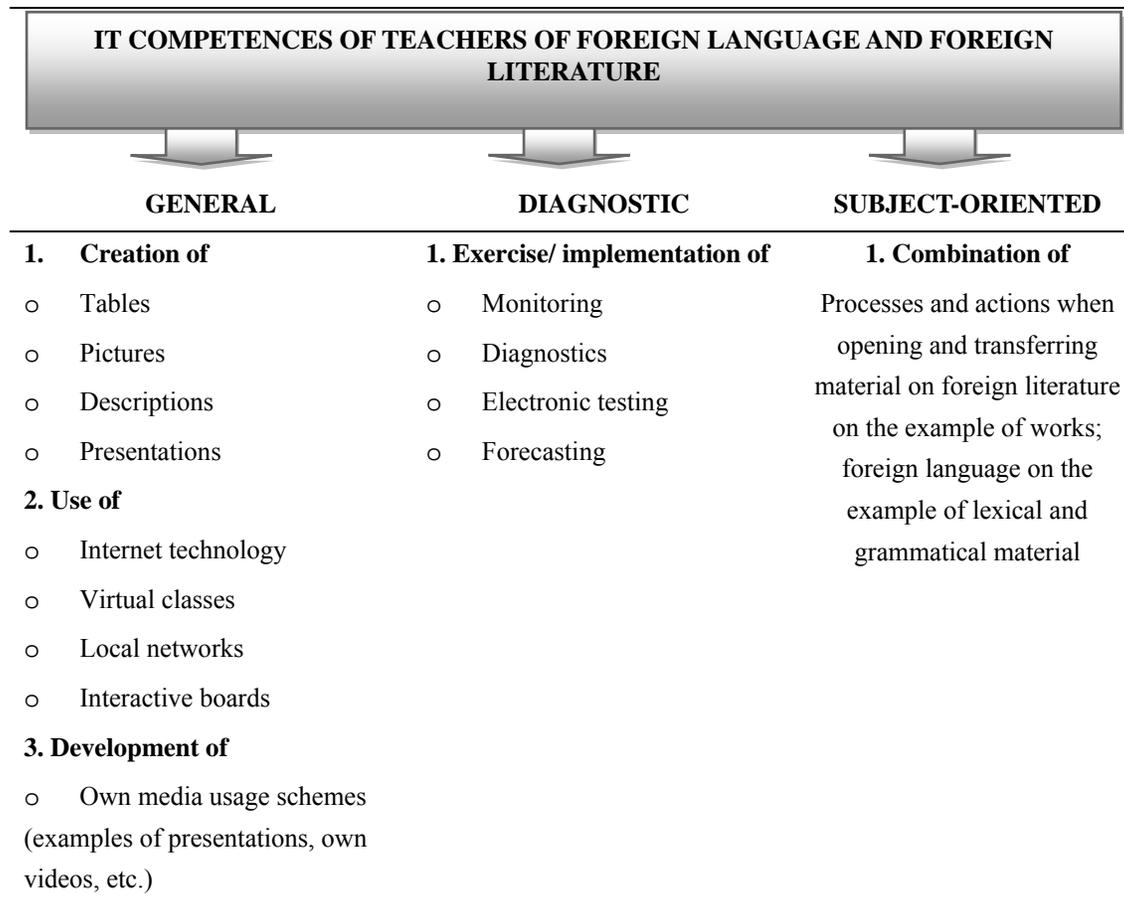


Figure 2. IT competences of teachers of foreign language and foreign literature

5. Conclusions

The use of information technologies in the process of realization of educational and professional training of future teachers of foreign language and foreign literature contributes to a more effective solution of basic curricula problems, in-depth study of the content of the studied subjects, optimization of self-education and self-development of future specialists, individual way of perceiving information and work with it. Involvement of information technologies in the educational process visualizes the theoretical foundations of the chosen specialization, expresses the peculiarities of language and literature as subjects as a whole, effectively promotes the choice of methodological and didactic principles of presentation of foreign language and foreign literature in school, determines the content and structure of lessons at different levels of school philological education, modernizes the specifics of the communication process between the teacher and the pupil, expands the possibilities of analysis of any literary work or lexico-grammatical phenomenon, demonstrates originality of perception and the development of emotional sphere of subjects of educational process in working with certain linguistic phenomena or literary works.

In addition, it should be noted that the implementation of information technology in the process of training future specialists contributes to the formation of skills and abilities of the educational activities as such, solves a number of problems with the development of oral and written language of the subjects of the educational process, helps to diversify and present the issues of extra-curricular reading for pupils, teaches to analyse school curricula and textbooks, make different types of plans and synopsis of lessons, develop a system of questions for the analysis of lexico-grammatical phenomena, literary works or individual episodes, schematize the system of lessons and individual lessons in accordance with the study of works of different lexico-grammatical topics, literary families and genres, distinguish methodological instruments of interpretation of artistic texts, taking into account the peculiarities of the collective of pupils and the personality of each pupil. Information technologies in the context of the educational process are positioned as the most effective tools for assessing pupils' oral responses and written work, making programmes of elective courses, producing scripts for literary events and analysing lessons of foreign language, foreign literature and extracurricular activities in these subjects. A further vector of scientific research is

seen in the further search and implementation of adequate methods, ways of applying information technologies in the professional training of teachers of foreign language and foreign literature, which correspond to innovative educational trends. We believe that the proposed topic of scientific research contributes to the successful realization of the educational programme in the context of technical and information support for students of higher educational institutions.

6. Limitations of the Study

Our proposed general scheme of conducting lessons in foreign literature and foreign language with the help of IT does not cover all the problematic issues regarding the development of competence of future English teachers, but provides recommendations for improving different types of competences of students majoring in Linguistics. In the future, the topic of our study may include improvement of models of competence development and methods for bringing the communication skills of future teachers to a creative level.

7. Directions for Future Research

Prospects for further research in this area include determining the structure and components of information and digital competence of future foreign language teachers.

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