Didactic Potential of New Generation ICT in Forming Information and Communication Competence of Upper Secondary School Pupils

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Abstract. The article focuses on forming the information and communication competence of upper secondary school pupils. The importance of blended learning and on-line learning is substantiated. The possibilities of introducing new types of ICTs into literary education, peculiarities of their application are characterized. In the process of experimental study, the tasks developed using on-line resources are tested ("LearningApps", "Prezi", "Emaze", "PoowToon", "Kizoa", "Padlet", "Thinglink", "Piktochart", "Tagul", "Canva", "Realtime-board", "Mindmeister", "Mindomo", "Ilovefreesoftware", "Zaption"). It has been found out that these tasks and the selected on-line resources contribute the analysis and interpretation of artistic works. The importance of using Google as a tool for searching literary information is also substantiated. The upper secondary school pupils' cross-cutting skills, which promote the forming of their IC-competence, are determined. The cross-cutting skills give the opportunity to work in standard and updated conditions. The examples show how the didactic potential of the new generation of ICT contributes to a qualitative increase in the level of subject knowledge, in particular literary. The article describes a system of tasks with the use of Internet resources in order to form IC-competence of upper secondary school pupils. The effectiveness of the proposed tasks is experimentally tested. Thanks to implementing new kinds of ICTs, teaching the upper secondary school pupils has become more qualitative, and forming of their IC-competence has become more effective.

Keywords: information and communication technologies (ICTs); e-learning; Internet resources, IC-competence.

1   Introduction

The modern globalized world requires the application of the information and communication technologies that is an important tendency in the educational process nowa-

days. The younger generation is growing under conditions of the information society. Young people are fond of using social networks for communication, sometimes they are ahead of their teachers in using information services and gadgets.

Education does not remain the same; changes are always taking place in better. According to Porter A., active opportunities in education increase the influence of teacher's professional development [3]. The teacher's development and growth depend on a deep understanding of the current needs, perspectives and priorities, the ability to use services independently, to teach pupils to achieve a common goal by means of modern ICT. The current development of information technologies provides the opportunity to educate the media generation of pupils using the types of modern ICTs, in particular Smart technologies, Cloud technologies, Web Syndication, Second Life, Geoservices, Web 3.0 technologies (mobile technologies). Our educational system is only partially ready for their implementation.

Problem statement. As there is no training provision, programs and textbooks do not contain suggestions and tasks which might involve the usage of new ICT tools, teachers learn new technologies mainly by themselves, and the chaotic usage of cloud technologies is observed.

A competent school graduate, a higher education institution graduate, becomes a desirable object for an employer. Employers are always looking for qualified, educated, mobile, flexible specialists. In order to be a competitive one in the labor market, it is necessary to have new information tools, to operate in a programmable environment. However, not always pupils have a high level of information and communication competence, because their teachers face problems, dealing with a choice of services for work. The didactic potential of ICT has not been enough investigated yet. In addition, there are psychological barriers for teachers to apply new technologies. Many of them are practicing to work as usual.

Naturally, while using ICT, it is necessary to overcome the negative attitude of colleagues, to raise some awareness, computer literacy, media literacy, teachers' media culture, to teach them how to navigate in pedagogical network communities. **The purpose of this article** consists of the selection and justification of the use of modern ICT in the education process in the upper secondary school (the example of literature teaching). To achieve this goal, it is necessary to solve the following tasks: to investigate the state of the problem of ICT use in high school; to substantiate the need for the use of modern information technologies and Internet resources to improve the quality of literary education; to develop a system of literary tasks on the use of online resources; experimentally test their effectiveness to improve the quality of knowledge of high school students in literature and at the same time the formation of their IC-competence.

2 Analysis of Publications

The scientific thought is constantly enriched with new ideas and developments in the area of pedagogical technologies. Formation of information and communication competence (IC-competence) is researched by Ukrainian scholars (Palamar, Vaskivska, & Palamar [7]; Vaskivska, Kosianchuk, & Skyba [15]), and by foreign ones (Andresen

[1]; Heinich, Molenda, & Russell [4]; Siemens [10]; Siminson, & Thompson [11]; Tikam [14]; Wanner [17]; Wankel, & Kingsley [16]; Zubarev [19]).

The importance of introducing e-learning, cloud-based technologies (data processing technologies, in which computer resources as online services are suggested to the online user) into the system of education and practical application of different platforms, that allow to use and to store large volumes of information, to work with a hypertext, to create a single informational space for pupil's conferences, on-line competitions, is pointed by Subramanyan K. [12], Sultan N. [13]. The usage of intelligent learning environments (Intelligent Learning Environments, ILEs) and Intelligent Learning Complexes (ILCs) which are "aimed at individualized learning" are studied by Kabassi K., Virvou M. [5].

The leading point in the formation of IC-competence of pupil is the movement from the knowledge accumulation to the ability of working with information. Siemens G. states that pupils must be able to work with the information outside the educational process, because learning must be lifelong [10]. Morkovina E. thinks that IC-competent pupil is a dynamic, functional person, ready for constant changes and development, whose information competence is an integrative quality that is implemented in the information space [6]. Consequently, the information and communication competent pupil is considered to be capable to organize new forms of cooperation with other people on the basis of the microprocessor technology, various kinds of activities. This is a person prepared to live in the society, who knows ICTs, methods of information processing. This is a person being able to improve his activity, applying the professional, methodological, general cultural knowledge and practical skills.

Wankel Ch., Kingsley J. offer a new life for pedagogues in teaching. In their book (Second Life and Education) they represent a popular platform where everyone can visit freely. It teaches to achieve results, make decisions in real time. The authors believe that the virtual world offers advantages and a wider range for prospects in education [16]. Scientists promote a continuous education, which changes the behavior of recipients through incentives and they can mind the sense in online e-learning in the Internet, which is more democratic.

A combination of traditional and innovative forms of learning is efficient. Wanner T. points out the importance of the combination of mixed and on-line learning. In his view, it is necessary to be trained throughout life. The service training is unique. It offers a direct application of theoretical models [17]. The researcher considers that it is necessary to post any findings in blogs, online forums. Such an active self-education contributes to the fact that pupils carry out a research offered by a teacher without assistance. It means that recipients are not limited to questions and answers. They use the knowledge gained in practice, in intelligence. Pupils consider important topics from different sides, using previously acquired knowledge, skills, attitudes, and views.

Quaye S. and Harper S. insist on the importance of providing the right conditions for teachers to learn within the globalization and internationalization of education in order to gain a wide range of skills to work on-line [9]. According to a number of authors, Service-learning expands learning opportunities because it goes beyond the academic term. It provides the basis for constant personal growth throughout the period of education and after it (Engaging students in learning). Such reflections indicate

the need to develop a strategy for long-term learning, self-improvement, self-education and self-development on the part of subjects of learning.

There are new types of ICTs in education. There are Smart-technologies, interactive smartboards, mobile phones, iPhones, Smart TV. At the same time, cloud-based technologies are used to process data, in which computer resources are provided to the Internet user as on-line service. They offer a scalable infrastructure and do not depend directly on the computer. The usage of Google-applications, high-quality services give an opportunity to pupils to get familiar with the possibilities of collaboration, a manifestation of analytical and synthetic activity and modeling, to inspire pupils' creative abilities, to fulfill their plans, to socialize more quickly. Web Syndication provides a perspective in distributing the audio and video content in any site, gives partner relations. Second Life is known as a three-dimensional virtual world that has elements of social networks. It allows to turn on radio station broadcasts online, to listen to music, to watch movies and videos, to play games, and to participate in the lives of online communities. Geoservices (Google Earth) develop a worldview, because they allow users to build virtual maps and travel around the world. As for Web 3.0, this concept of Internet technologies development was developed and substantiated by Kalakanis J. It offers a content of a higher quality and allows it to be used both internally and remotely. Web 3.0 is a personal website that can be portable. It is characterized by a focus on the personality, his capabilities. According to Boldachev O. [2], Web 3.0 is a multitude of online services that provides a full range of tools for making, editing, searching and displaying any type of content that simultaneously provides ontologization of users' activity. In the process of developing technology, the site itself becomes not so much important as the result of the recipient's activity in the network [2]. In addition, the collective content filling enables the expansion of the outlook. It allows sharing experiences, providing the pluralism of thoughts. Today, it does not matter where it is located. The person comes to the forefront with their position, beliefs, views and reflection of IC-competence. All these types of modern ICTs are not the sum of the technologies. Each of them can be used if it is necessary at a certain time, due to the partner interaction between the teacher and the pupil.

The important meaning for learning, for example, literature, is a knowledge of an artistic text work, an ability to carry out an analytical and synthetic activity within it, to structure the own utterance. That's why the participation in mixed learning (full-time/distance, traditional/innovative), projects, the creation of own web-sites, which serves a great help in understanding the art of the word, allows to demonstrate a position about the text which has been read. Such personality traits as an ability to work in a team, to plan, to predict effects, to design, to simulate, to achieve results, to correlate own activities become more significant than the set of knowledge, which a pupil has in a particular subject. Nevertheless, they are not always formed in the young growing generation.

A text/a media text becomes a tool for creating a kind of informational collage. Its location is based on the principle of a lifestream. A constant information flows in the form of a diary makes it possible to generate objects in a certain sequence, to unite them into groups (pages), to structure the content. The system of a modern web site allows loading pages without updating them, and tag technology allows to view using any device that has an access to the Internet. Updating the information attracts attention, causes a desire to create and motivates to the activity. The base for Web 3.0 is

still the best Web 2.0 services. The search engine Google lets pupils to learn Google Toolbar (the toolbar for browsers), Google Chrome, (a modern web browser) and its applications, such as cloud custodians of Google Drive and WebFile. Pupils can learn webdesign, websites aimed at facilitating the work in the Internet, creating and editing some audio and video, fast mailing, photo processing, constructing graphics. In particular, the usage of Timetoast makes it possible to construct interactive graphics. The usage of Vlix, GoAnimate, Stupeflix, YouTube Video Editor, WeVideo, Magisto and Xtranormal gives an opportunity to create videos and to integrate them in YouTube. Xtranormal helps to release own cartoon. Each step is a movement towards understanding ICT tools, which are the basis for life-long learning.

3   Discussion

Taking into consideration the urgent needs of the educational process, during the experimental training (the formative stage), the efforts were made to form the internal and cognitive motivation of the pupils by means of creating successful situations. The tasks in literature that require the use of ICT tools for upper secondary school pupils were formed to intensify their creative activity and knowledge. In the process of research, Smart-technologies, cloud technologies, geoservices, and Web 3.0 technologies were used. They are oriented to the development of critical thinking, the creation of an informatic product, the readiness to work with searching in the Internet. During the experiment, the following types of work were used: booktrailers, story-tailing, QR-quests, clusters, artscribing, joint presentations and documents, video poems, comics, videos, intellectual games, mental maps, word clouds, puzzles, video questions, interactive smartboard were used. The video broadcasting was tested. The pupils systematized media texts according to the century, literary trends, styles and groups, creativity of writers, and also they determined the interrelations.

Analysis and interpretation of artistic works using ICT tools, Internet sources are going on taking into account the peculiarities of their genre and generic specifics. There are common signs of different works: language, mood, images. The distinction between literary genres occurs in aesthetic quality (satirical, tragic ...), volume (story, novel ...) and form (stories, short stories ...). These signs affect the structure organization and text content. As for an epic work, the prominent feature is a division of actions in time and space, dynamics, therefore its learning involves getting acquainted with a case or a history of the character's life/characters' lives. There is a need to clarify the causal relationships, the solution of the moral and aesthetic problem, the analysis of virtual reality, depicted by the author. Creating a microfilm by the artistic word (the program "Kizoa") will become the most appropriate. Pupils will be able to demonstrate the place of events, actions of literary heroes and their movements (facial expressions, gestures), to emphasize the appearance and views. It is possible to create a text web encyclopedia where pupils post internet links.

An example is a participation of the 10th grade pupils in the project "Kaydasheva family – the Encyclopedia of Ethnology". It can direct their search activity to find common features of the national character of the Ukrainians, their everyday life, things of using in everyday life, cuisine, clothing, arts, customs, rituals and traditions. Registering on YouTube, joining a group, creating own literary and informatic prod-

uct (booktrailer), which becomes a promotion to the work, downloading and discussing it on the site in an online mode, make pupils' self-development possible, promoting their active interaction, revealing the outlook, form a non-standard way of thinking. Yakina M. calls booktrailers as a phenomenon of mass culture, the product of technology and commerce of information and socio-cultural space. Literature and art, various socially significant texts are the leading elements of spiritual culture. And from the position of human needs in the dialogue on "timeless" questions, their creation serves as a certain content to fill the form according to certain rules of advertising and marketing [18]. Researching the features of the booktrailers, their influence on the development of the pupils' reading interests; the methodological foundations of creating booktrailers and samples of pupils' media activity were proposed in the article "Competency approach to teaching literature using cloud technologies" (Palamar, & Nazarenko) [8]. The irony and humorous moments were depicted in comics (Ilovefreesoftware's resource).

Studying the prose "Enchanted Desna" by Dovzhenko O. in the 11th grade includes the acquaintance of upper secondary school pupils with its autobiographical basis. Pupils were allowed to use ICT tools, Internet sources that made it possible to compare two lyrical characters: small Sashko and a mature person. The usage of the "PoowToon" program enabled the representation of common and distinctive features of the characters in the artscape robot. Using the "Paint" and "Adobe Fotoshop" gives a chance to create an associate canvas "Childhood" and to place everything in a collage. The moral and ethical problems of the film-novella reflected in the pupils' own monologues, which they placed in their own blog pages. The monologues became messages addressed to recipients.

A comparative analysis of the works "Moment" by Vynnychenko V. and "In the Ryes" by Kosynka G. provided for a significant preparatory activity. As a result the recipients came to the concluded that life consists of a mixture of happiness and trials, a constant choice and answers to previously committed deeds. Telling stories about a short-lived love in a life-threatening situation, common problems of human happiness, frustration in the imposed ideology, disharmony in the internal and external worlds are reflected in the infographic ("Piktochart") and QR-quest, and the characters of the heroes in combination with illustrative material were placed in the interactive online boards ("Padlet", "Thinglink").

Studying the creativity of Kyiv poets-neoclassicists (grade 10) and poets-of-the-1960s (grade 11) had a strong impression on the pupils. Philosophy, aphoristic sonnets, vitaism, confessional poetic works were presented by pupils in video shows. In addition to the literary competence that involves improving skills to read poetry expressively and consciously, to distinguish the main motives, it became possible to convey some imagery, feelings, mood and rhythm of poetry through ICT tools. Thus, information literacy and culture were realized in the process of creating video tours, editing (YouTube Video Editor Service) and loading display texts in YouTube. The number of reviews showed the interest of the recipients in such media production, its informational and aesthetic significance.

Acquaintance of the 10th grade pupils with a dramatic work "Martyn Borula" by Tobilevich I. and "Mina Mazaylo" by Kulish M. contributed to the expression of creativity and acting skills of upper secondary school pupils. They took pictures of their staging and compared with the author's plan. They found out how much they were

able to convey the spirit of the century, the stage embodiment of images of heroes, to expose the spiritual poverty of the inhabitants. The possession of the information means made it possible to do installation with special effects, which improved the perception of characteristics of heroes, not only through dialogues, but also through the reproduction of national color, means of humor. The creation of mental maps (resources Mindmeister, "Mindomo") improved the perception of text works, moral values and virtues, which were promoted by this or that writer. Pupils tested the learned knowledge with help of video questions ("Zaption"), developed by classmates. Cross-cutting skills turned out to be a work with information, an implementation of analytical and synthetic activity, a manifestation of creative abilities, critical thinking, planning and reflection.

The evaluation was carried out by using the criteria which was developed by Bloom G.: knowledge, understanding, application, analysis, synthesis, and also markers for the assessment of competences by Koroliov V.: a reproduction, a reproductive algorithmic action, a productive heuristic action, a productive creative action.

4 Results of the Research

Experimental learning involved 310 pupils from experimental classes (EC) and 334 pupils from control classes (CC). In order to carry out an analysis of the results of experimental teaching, pedagogical observation of the problem-searching, creative tasks, and evaluation of the literary product created by pupils of 10-11 grades with the help of ICT tools was used to determine the level of literary competence (LC) formation. In order to determine the initial data on the levels of LC formation, a first cut was carried out, the quantitative indicators of which are summarized in Table 1.

Table 1. Comparative indices of levels of formation of LC of upper secondary school pupils by means of ICT at the stage of the experiment (I cut).

Classes	Index	Levels of formation			
		Creative	Functional	Basic	Initial
Control	Quantity	20	119	149	46
	%	6,0	35,6	44,6	13,8
Experimental	Quantity	37	93	145	35
	%	11,9	30,0	46,8	11,3

The results of reading activity were evaluated from 1 to 12 points. Quantitative characterization of the levels of formation of LC was determined by the formula LLC=S:N, where LLC – the level of formation of LC, S – the sum of the points obtained for all the tasks performed, N – the total number of tasks. The result from 10 to 12 points corresponded to the creative level of literary competence formation, from 7 to 9 – to the functional, from 4 to 6 – to the main, and the result below 4 was considered low. After analyzing the results of the first cut, it was concluded that on the insufficient level the LC of pupils of the senior school age has been formed. The creative and functional level was demonstrated in 41.6% of the pupils of the CC and 41.9% in the EC, which is less than half of the total.

One details the evaluation criteria. **Creative level** provides thorough knowledge of high school pupils about ICT, electronic resources, willingness to work with different search engines, the ability to edit large flows of information, critically interpret it and use it where necessary. The pupil creatively uses the received literary information, deeply analyzes a work of art, generates ideas, shows critical thinking. The pupil creates a quality literary product and successfully presents it based on the analysis and interpretation of works of art using ICT.

Functional level involves high school pupil's knowledge of ICT, the ability to use a variety of electronic resources to search for information and productive reading activities. The pupil critically perceives information and uses it to perform literary tasks, shows the ability to analyze works of art. The pupil participates in the creation of ICT literary product, but under the guidance of a teacher or pupils' group leader.

Basic level provides fragmentary knowledge about ICT and electronic resources. The student is able to use a search engine, but does not fully filter the information for generalizations about the literary work during the analysis. He tries to create a literary product under his guidance, but makes significant mistakes.

Initial level is determined by basic knowledge of ICT and electronic resources. It is difficult for a student to navigate in a search engine. The student cannot make generalizations from the information received from the Internet about the literary work. The student does not participate in the creation of a literary product.

The formative stage of the experiment was held in five regions of Ukraine. While being conducted, a curriculum of the Ukrainian literature with the use of ICTs for pupils of 10-11th grades was developed. Multi-level tasks, virtual lectures and reference cards on topics were created. Their implementation demonstrated not only the literary and IC-competence of upper secondary school pupils. The virtual tours for the possibility of creating own 3-D demonstration rooms took place. The information cases for teachers were developed; their usage is simple and convenient during banner and integrated lessons, lessons-projects and so on.

Pupils did tasks in the Google Classroom, starting with the simplest use of resources (Google documents, forms, tables, presentations), and the ability to work with the electronic catalogue of libraries. Then the tasks were complicated, pupils learned to create media texts, to post their works in YouTube, to participate in web quests on literary and topical social themes. Each page of the quest was connected with hyperlinks, which created the impression like a journey. As a result of the quests, pupils prepared reporting presentations with the help of programs ("Prezi", "Emaze"). Some obstacles on the way to master e-learning were the lack of awareness of teachers and pupils with new kinds of ICTs, interface service services, low motivation of readiness and the pupils' IC-competence, but increasing interest to ICT and information resources contributed to improve results.

Each teacher, who participated in the experiment, created a blog/site that hosted collections of the best pupils' works, which facilitated the exchange of experience and information. These blogs/sites have become virtual laboratories which assist in mastering the program material, contribute to the formation of research qualities, cognitive interest, and information culture. In addition, a laboratory was set up for the talented youth in preparing for the participation in competitions and contests of various levels. The usage of e-learning elements has such features as virtual environment modeling, community-based pupil engagement and motivation, and invisible project

management. Intellectual games (LearningApps program), on-line polls, developed by the pupils, made it possible to test pupils' knowledge and interest in their subject, to form IC-competence and cognitive activity, to promote self-education and life-long learning, which is a key to forming an IC-competent person.

The significant achievements while learning modern ICTs became distance learning courses for pupils who could not attend school for some reason. Virtual seminars for preparing to educational Olympiads, state final attestation and external independent evaluation, and methodical recommendations for teachers in using services and smart boards have been held. Winning at different stages of conducting competitions in the school subjects, successful compilation of pupils' entrance examinations to universities indicate significant achievements in the way of mastering information competencies. One can see the pupils' works in the e-address: https://lessons555.blogspot.com/.

The usage of the new generation of ICTs also contributes to the involvement in the projects of the upper secondary school pupils, who are trying to achieve the intended positive result while working actively. This allowed to combine a traditional training with an innovative (full-time and distance learning).

Exact and distant forms of teaching are effectively provided under a condition of their constant interconnection and coordination with each other. According to results of the pupils' academic achievements, some improvement in the quality of their learning in experimental classes was being observed. In order to confirm this, it is presented the results of the final questionnaire and testing after the forming stage of the experiment (Table 2).

Table 2. Comparative indices of the levels of formation of LC of upper secondary school pupils by means of ICT (II cut).

Classes	Index	Levels of formation			
		Creative	Functional	Basic	Initial
Control	Quantity	28	133	130	43
	%	8,4	39,8	38,9	12,9
Experimental	Quantity	75	120	96	19
	%	24,2	38,7	31	6,1

On the basis of the percentage data we show the picture for the purpose of revealing the dynamics of the levels of formation of literary competence (LC) of upper secondary school pupils by means of ICT by the results of the first and second cuts (Fig.1).
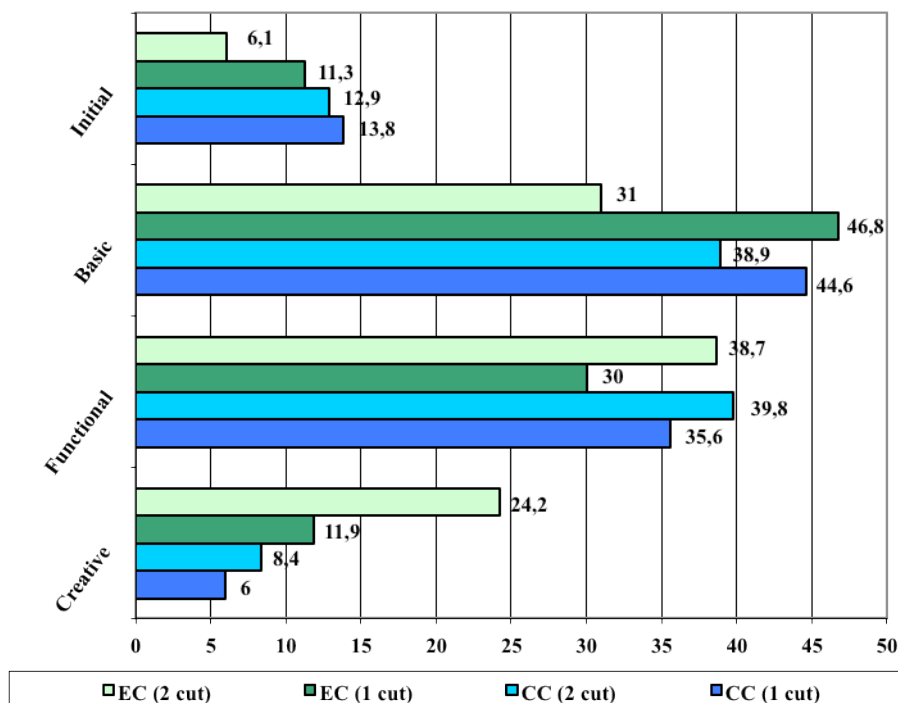
Fig. 1. Dynamics of formation of levels of LC of upper secondary school pupils by means of ICT by the results of the first and second cuts (in %).

During the experimental-research training of pupils with a creative level of formation of LC appeared much more. Quality improvement is 12.3% (creative level), with a functional level of 8.7%. The percentage of pupils with an initial level dropped from 11.3% to 6.1%. The results led to the idea that any work requires a systematic approach. A constant appeal to the texts of artistic work, ICT tools have taught upper secondary school pupils to edit significant streams of information, to critically perceive them, use them if necessary. In addition, the opportunity to work in a group in the EC consolidated the mental efforts of a certain number of pupils. The method used in conjunction with traditional methods defined a series of actions in relation to finding answers to problematic issues in the process of studying the life and creative path of artists, their works of art.

The dynamics of changes in the indicator (EC, CC) reflected positive trends in the competence development of pupils in terms of the number of respondents regarding the formation of information and communication competence levels.

A survey was conducted among pupils of experimental classes. The questionnaire for high school pupils contained the following questions, for example:

What literature tasks did you perform with the greatest interest? (reproductive, creative, research).

Do you like interactive tasks created with the help of the web resource "LearningApps"? (yes, no, I don't know).

Did you use infographics in literature lessons? For what purpose? (open question).

Do you need mental maps to systematize knowledge of literature? (yes, no, I don't know).

Did you perform creative tasks in literature? (yes, no, I don't know).

What are the electronic resources that helped to qualitatively fulfill the literary task? (open question).

What literature assignments do you remember and enjoy the most? (open question).

Do you like discussing online discussion questions on the Padlet? (yes, no, I don't know).

For what other purpose can you use the Padlet? (open question).

The pupils as representatives of the new mobile generation have confirmed that the tasks of creative direction are more interesting for them. Thus, the ability to use a graphic editor is considered positive by 45% of the pupils, the development of intellectual games and interactive tasks (Web-resource "LearningApps") – 95% of respondents; the ability to create artscribings (web resource PoowToon) – 78%, booktrailers, video poems – 81%, infographics – 64%, mental maps – 85%, Google cards – 72%, participation in creating Google forms, common presentations – 83%, tag cloud design – 75%, web quest – 52%, rebuses and crossword puzzles – 81%, informational boards (Padlet service) – 65%. The benefits of using new ICTs in the learning process, the ability to choose the level of complexity of tasks, the democratic evaluation, the availability of information, a variety of resources for the expression of creativity and the cognitive component of learning, communication in social networks for educational purposes give the new breath into the traditional learning.

There are the conditions under which a learning process became successful: provision of learning materials in the classroom (mobile devices, laptops, i-Pod), using smart-boards; availability of services regardless of a residence place; the establishment of a partnership interaction between pupils and teachers, understanding the importance of using the Internet as vivid example not only of intertextuality, but also as a mean of expressing creativity and modeling by the subjects of education; the close relationship of information and communication technologies with the development and enrichment of reading experience and the acquisition of other pupils' key competencies; improving the quality of educational services, the level of teaching subjects by teachers and depriving them of fear about using a new and something little-known; socialization and a psychological support.

The formative stage of the experiment made it possible to state the fact that readers needed to learn how to organize their activities in order to feel own development and to feel the beauty of the artistic works which they were learning. An important place in solving the controversy was occupied by the conditions under which learning became successful, and social relationships were established between the teacher and the pupils.

It is found out that a long-term monotonous work in the classroom negatively affected the educational outcomes of the pupils. It was difficult for the upper secondary school pupils to get used to the new conditions of studying at the beginning of the formative stage of the experiment, because there were complications in its organiza-

tion. Subsequently, the persistent joint work increased the level of motivation in studying, improved the quality of analytical actions, revealed the desire to use their reading experience in a non-standard way.

Predicting the results enabled pupils to make fewer mistakes, to avoid shortcomings, and to understand the author's guideline. A clear idea of the future information product enabled modeling it, creating conditions for the quick implementation of the plans. The target for possible achievements taught rational methods of activity, helped the pupils of the experimental classes to form the ability to adequately assess their strength, to correct mistakes, to develop positive personal qualities and moral responsibility.

5 Conclusions

After studying the state of the problem of using electronic resources in the educational process of high school, the importance of using in literary education "LearningApps", "Prezi", "Emaze", "PoowToon", "Kizoa", "Padlet", "Thinglink", "Piktochart", "Tagul", "Canva", "Realtimeboard", "Mindmeister", "Mindomo", "Ilovefreesoftware", "Zaption" and others. Students were more interested in tasks with the use of modern information and communication technologies than traditional tasks, seeing the possibility of their application not only in the study of the subject, but also for the future professional sphere.

Finding a sense in the e-learning, using Internet resources, working with information, integrating interaction of subjects of learning, adequate reflection are not a complete list of what enriches the meaning of the concept "information and communication competent pupil", who is generally understood as a person capable to organize new forms of cooperation with other people, to use various types of individual and social activities, who is prepared to live in a society, aware of the new generation ICTs, informational processing methods and can improve their activity.

The presented research confirmed the importance and relevance of e-learning and the usage of e-resources in the school practice. E-learning is progressive and perspective, it meets modern educational requirements, makes it possible to study material in a convenient way for pupils. The possibilities of e-learning to form an individual style of thinking and independent competence development, to solve educational tasks and to demonstrate knowledge are revealed. It is described the types of professional activity with using ICT tools, that allows to disclose the cognitive and creative components of the educational process, their influence on forming not only the information and communication competence but also the subject literary competence. It is determined that in the process of involving pupils of experimental classes in the subject activity with using Smart technologies, cloud technologies, geoservices, Web 3.0 technologies, there are significant positive changes in the process of forming increasing motivation, interest in the content of educational subjects. The results of experimental studies, surveys of pupils proved the hypothesis about the effectiveness of using Internet resources, their advantages for raising the level of pupils' competence.

The presented research does not exhaust all aspects of the affected problem. The subject of a further scientific research may be the followings: the pilot projects in the

area of e-learning on the integrated and interdisciplinary basis; the quality of inclusive education in the process of implementing e-learning.

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