

# WEB QUEST AS A MEANS OF PRIMARY SCHOOL STUDENTS' INFORMATION CULTURE FORMATION

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## Introduction

To begin with, among active users of the Internet certain age categories are defined – children, teenagers and youth. Exactly those make up progressive social groups, quick on the uptake and easily coping with new information technologies. Meanwhile, the Internet resources are a valuable and immense base for creating IT studies environment, education and self-development, and meeting people's professional and personal interests and needs on the one hand. On the other hand, under the circumstances of real information availability it is becoming necessary for each person to have an ability to search wanted information on his/her own. As a result, information competence requirements for people are increasing nowadays. A person is required to have developed skills to efficiently work in the information environment and use the provided opportunities; in other words, to attain a certain level of information culture or the culture of one's interaction with information.

At the present stage of society development information culture is believed to be one of the most important indicators of one's overall culture. Each person's life is becoming more dependent on the level and way this person is able to receive information promptly, accept it adequately and use it efficiently in his daily life (professional or training activity, leisure time or at home) (Romantsova, 2012). Thus, the meaning of the aim to develop information culture is increasing.

According to the results of the students' information culture research held in the sociological studies laboratory of the Education Development Center (Samara) in collaboration with the Department of the IT Center more than half of the surveyed students (57,2%) defined the Internet as the most popular source of information. Moreover, the vast majority is certain that the Internet is absolutely universal, assuming that any sort of information can be found there. From students' point of view, the main advantages of the Internet are connected with training activities. They think that it helps them to find a lot of useful information needed for training activity (71,5%); saves time spent for preparation (43,8%); makes the learning process more interesting (28,5%). It is fair to claim that students are attracted to a quick access to essential information (The Internet Used by the Students of Samara, 2012).

However, only an access to the Internet does not mean a quick and quality education. In scientific literature there are a few descriptions of the fact that the work full of wrong techniques used for Internet resources interaction has led students to develop false stereotypes and basic conclusions. This fact is supported by research data, which shows that only one third of the polled students share the opinion that information on the Internet is trustworthy. There is also 4,8% of the students who think that there is a lot of untrustworthy information on the global net (The Internet Used by the Students of Samara, 2012). So, the global net actually excludes other sources of information for students surfing the Internet. Along with the television the Internet has become one of the most general sources of information. At the same time school still plays the primary role in students' education. This could be explained by the following: students, being more or less Internet literate, do not have enough skills to work with information, digest and report it in particular. Therefore, developing students' skills to independently set objects in the learning process, plan the objects realization, control and estimate their achievements is a priority goal in students' education. In other words, developing skills to study. Exactly this skill is acknowledged to be a key competence, which allows a person to survive in changing conditions of the information-oriented society.

A modern person lives in the conditions of a rich and active information environment. It is important to teach to live in the stream, creating the background and circumstances for non-stop self-development and taking into consideration integral tendencies of science and equipment changes. In order to enable students to use all that more efficiently to meet educational and professional interests and needs, a necessity to elaborate particular teaching Internet materials has appeared. One of the materials is Web-Quest, the usage of which stimulates students' cognitive thinking activity and teaches them to work with the Internet resources (Concept to Classroom, 2012).

The founder of the teaching technique Web-Quest is Bernie Dodge, professor of the university in San-Diego. In his opinion, Web-Quest is a reference-oriented interactive educational tool (Concept

to Classroom, 2012). It means that the information explored and estimated by students in class comes from the Internet. Thereby, Web-Quest in the educational sphere is the Internet-search aimed at teaching and learning process (gaining new knowledge, consolidating the given one, developing skills to use the Internet and other skills applied to the subject) (Romantsova, 2012). WQ model is based on the goals of constructive thinking where students, from his/her point of view no matter how "raw" is at the moment, are placed in the center of the educational process. The core message of this approach consists of the following ideas: 1) a student cannot be given knowledge in a ready-made completed form. The only possible thing here is to create certain pedagogical conditions for successful construction and expansion of a trainee's knowledge; 2) Educational motivation through students' involvement in the searching process, research and solution of significant problems, first of all problems of reality, solutions of which are directly connected with a real life situation; 3) Creating of conditions (choices of techniques, teaching forms and assessment tools), tracking down intellectual assets, a special value of the view point, an individual approach to a problem solution, a unique perception of the situation and an individual frame of mind of each trainee (Shatalova, 2010). It is important to emphasise that a teacher does not impose his/her own knowledge and views, after all a teacher plays the role of an organizer of the learning-cognitive and research process activity of students and values more the process of achieving the truth rather than the truth itself.

David Thornburg, futurologist and IT specialist, gives an explanation why equipments demand a "teacher-student" interaction more as ever before: "Teachers must mould students' reading literacy, teach them to consider and estimate information they find. So long as more children have a computer at home as well as the Internet access, some teachers may come to a conclusion that they do not have to focus on the things well known for children. "Well, children have an access to the Internet at home that is why I do not need to pay much attention to that." The danger of the situation is that most children have developed excellent technical skills (they know how to work with this or that program, how to use search engines of the Internet), but it does not mean that their research skills are developed in the right way to understand the meaning of the found information. That is the turning point where a teacher's interference, being an organizer, becomes more important as ever before" (Concept to Classroom, 2012).

**Research of the Reading Competence.** Students' reading literacy assessment research was car-

ried out by us in grade 2 of the Secondary School № 48. The method of the research – test.

To start the process we prepared a special notebook. The notebook contained a text and two corresponding tasks: one a multiple choice type, the other one – a free constructed response. Students were given 40 minutes to complete the tasks. The results of the research were evaluated by the following criteria: 1) information interpretation and generalization; 2) formulation of simple conclusions; 3) concrete information search; 4) analysis and assessment of the content, language and abstracts of the text. 28 pupils took part in the research. In accordance with the results of the tasks performed by the students conclusions can be drawn that the tasks, aimed at analysis and assessment of the content, language and abstracts of the text, caused the greater difficulty for grade 2 students. The students took these tasks to be more difficult to complete.

### Results of the Research

In the long run, while tracking down the skill, we got the following results: 10% of the right answers out of two proposed questions, 67% of the wrong answers and 23% of the tasks were left unanswered. Only two of the students made an attempt to explain why they had characterized Alice with this or that trait. (Question №11: You have learned about Alice from the letter. Write down two qualities attributed to Alice as a person; prove your opinion using the text). Moreover, it was not easy for the students to interpret and generalize the information. To determine this part of the criteria there were four questions for the students to answer. The results: 45% of the right answers, 44% - the wrong answers and 11% - unanswered ones. Mostly the students succeeded in completing the tasks and answering the questions meant for the concrete information search. Seven questions of such type were followed by 61% of the right answers, 36% of the wrong answers and 3% of the questions not answered by the students. Analyzing the students' results on their skill to formulate simple conclusions, we got: 50% of the right answers, 44% of the wrong ones and 6% of the tasks not completed. It means that the reading competence is not high-formed and we should pay more attention to working with it.

Dr. Bernie Dodge insists that Web-Quest puts more responsibilities on teachers because they, not children, must find good useful web sites. Though, on the other hand, a child is also in charge of several things. Children have to understand what they are reading. They have to gain success in learning, working with each other and using information apparently not clear at first sight. Implementing Web-

Quest in classes allows teachers to solve such complex problems as formation of learning motivation, creative interpretation of the material and thorough knowledge consolidation. WQ allows to:

- Develop students' skills of information activity (searching essential information, framing work results in power point presentations, flash movies, data bases, using web sites on PC, etc);
- Develop skills of finding a few ways to solve the situational problem, defining the most rational option and giving arguments to support one's choice;
- Develop basic learning skills to handle techniques to grasp study materials;
- Organize self-training and self-organization;
- Teach team work (planning, distribution of functions, mutual assistance, mutual control);
- Develop a positive emotional attitude to the learning process, increase learning motivation and quality of the studied subject;
- Develop students' potential creative skills;
- Develop public speaking skills (project reports with public performances, questions and discussions), etc. (Concept to Classroom, 2012).

There are a lot of Web-Quests elaborated by teachers on the Internet. Unfortunately, most of them are meant for high school students. In our opinion, WQ can be effectively used already in primary school as younger students are active Internet users at home. Since students of this age yet have to develop "an ability to learn" due to training activities, incompetent work with the Internet resources may develop a low-level information culture. Thus it is reasonable to organize work with the Internet materials along with the usage of Web Quests in primary school classes.

As an example of such case there is a Web-Quest for grade 2/3 students elaborated on the basis of the book by an American children writer, Mary Pop Osborn, "Dinosaurs Before Dark". This is one of the first collections of stories popular and beloved by lots of children all over the world called "A Magic Tree-House".

**Research of the Children's Interests About Dinosaurs (Part 1).** Research method – interview.

### Results of the Research

Our research proved that books devoted to dinosaurs are popular among little readers. Interview of the librarians in Petrozavodsk, conducted in the Children's Public Library and the Drevlyanka District Children's Library, revealed that literature devoted to dinosaurs is in demand among children at

the age of 8-11 and, after all, among boys. 4 librarians took part in this survey. It is no coincidence that there is a wide range of books and magazines about dinosaurs in the Russian libraries (The World of Dinosaurs, Make a Dinosaur, Great Book about Great Dinosaurs, Great Encyclopedia of Dinosaurs, etc.).

**Research of the Children's Interests about Dinosaurs (Part 2).** Research method – questionnaire.

### Results of the Research

The survey of grade 2 and 3 students from school № 42 (Petrozavodsk), with 30 participants showed that 93% of the students read various literature about dinosaurs (books, magazines). 74% of the students have books about dinosaurs at home and 81% of the primary school students enjoy watching movies about dinosaurs, are keen on the topical literature and even gather collections of dinosaur stickers and toys. Therefore, we can conclude that a dinosaur topic interests primary school students pretty much. For instance, a work about dinosaurs prepared by Y. Buyalo (grade 2, Gymnasium № 37) was presented at the festival "My First Discoveries" (2009). He wrote: "I am interested in everything connected with dinosaurs. I read books and watch movies about them. I can construct figures out of paper parts using origami techniques. I have made bas-relief dinosaur images in plaster and wooden models of pangolins. With the help of the computer program "Dinosaurs Teach to Play Chess" I learned to play chess by myself. I like drawing dinosaurs, modeling them from plasticine or clay, making them of other natural materials" (2009).

Such interest was also noticed by these children's parents. Moreover, this topic was discussed on a special blog "Why do Children Take Interest in Dinosaurs so Actively?" Here is an example of the answers to the question. A child psychology specialist is explaining children's interest in dinosaurs by the following argument: "Children like horror stories. Perhaps, they enjoy the feeling evoked by overcoming a fear. Real fears are quite difficult to overcome that is why children like playing fake fear games. Child fears are natural. A child feels uncomfortable if there is no any close creature next to him/her. Anyway, children need to grow up and as a result they find such kind of games for themselves. The dinosaur is good for horror stories by its more or less presence, by its ugliness, claws and teeth, enormous size and bloodthirsty nature – but these things were long ago and now it is almost a fairy tale. As the initial fear passes in a few years, some mystery

and fabulousness still remain. The past object of fear becomes alluring and a child plays with a dinosaur as if it was a cheburashka, one of positive fantasy characters. I myself recall the moments when I used to turn pages with dinosaur images in encyclopedia with a trembling feeling. I never disliked them. To sum up, we can say that firstly children like the feeling of overcoming a fear and then they enjoy the mystery and fabulousness of dinosaurs. Although, all children experience it differently" (Dinosaurs.ru, 2009).

According to the argument laid out above we suppose that the WQ devoted to dinosaurs will make a great interest to for primary school students.

We managed to find the WQ elaborated on the basis of one of the series (Szabo, 2012) of the book "Magic Tree" written by an American author Mary Pope Osborne. We got interested in the WQ and thus translated it, then found the book itself and found out that it, particularly the first part "Dinosaurs Before Dark", is very popular among foreign children. The fact that the book is less-known in Russia backed up our interest even more. We translated the book into Russian and elaborated our own WQ. Additionally, we prepared a special notebook for students to put down some records while reading the book. It is attached to the book accordingly. The notebook contains tasks to identify the level of reading literacy: 1) information interpretation and generalization; 2) formulation of simple conclusions; 3) concrete information search; 4) analysis and assessment of the content, language and abstracts of the text.

According to the classification suggested by Bernie Dodge, we elaborated a long-term WQ which supposed to be studied by students during a month.

Firstly, we introduced children to the book. Along with the characters of Jack and Anny children set off in a fascinating adventure through the pages of the book. The story begins with Jack and Anny finding a magic tree-house piled up with old books. After viewing the pictures with dinosaurs, Jack wants to see Pteranodon with his own eyes. He makes a wish, and the children, as if by magic, made a trip back in time and find themselves in the land of dinosaurs. At this prehistoric time they saw such dinosaurs as Pteranodon, Triceratops, Anatosaur, and Tyrannosaur. Travelling back in time with Jack and Anny, students studied dinosaurs and made records in the notebook for analysis.

The WQ can be used both in classes and at home as extra reading which is very convenient for a teacher. Students read the book on their own and complete the tasks step by step after each chapter, hand in the worked out materials to the teacher to check. The teacher assesses, discusses the works with

the students or writes comments for each work.

The WQ is aimed at deepening and transforming students' knowledge of dinosaurs through literary work. Working on the project, the children not only learned how to handle information to answer the questions on the book content, they also did a variety of creative tasks connected with research.

The final task of the WQ was to stage own theatre performance based on the book "Dinosaurs Before Dark" which was supposed to be read till the end. In order to make primary school students more interested and involve them into the activity we organized an excursion "Birth of the Performance" to the Musical Drama Theatre of our republic. During the fascination excursion children got answers to the most interesting questions: What is hidden at the backstage and under the stage? How are light and sound effects created? What are costumes and requisites made of? Who dresses up the actors and does their hair?

The next step of the WQ was to distribute the roles. As different people of various professions took part in the preparing performance, students chose roles that reflect their interests and preferences. For instance, a decorator: to make the scenery of the play students had to explore information of the planet that existed million years ago and which can be found in sources given by the teacher. This task, during its completion, formed children's views on the planet. It helped them in scheming decorations and stage designing.

A costumer: students studied information about dinosaurs, made notes on the pangolins' appearance. Such work with information helped the participants to identify the peculiarities of this or that dinosaur, and then reflect them in costumes they prepared for the performance.

Actors: students were offered to study information about dinosaurs' habits. They had to write down general and specific characteristics attributed to the creatures. They come in handy when children performed their roles.

A stage director, stage manager: students, who chose this role, had to study information about dinosaurs, their habits, specific traits. Children took notes of the most important facts necessary for the performance. The function of the director and assistants was to control the process of the performance creation. Thus it was crucial to deal with all information.

A script writer: his function is to write the script for the play based on "Dinosaurs Before Dark". Script writers worked with the literary work itself, wrote the actors' remarks in detail and remarks accompanying actions.

The head of the dancing group and dancers worked with information on dinosaurs, their peculiarities and habits. The aim was to use the studied information and prepare dances for the performance. Besides, it was necessary to find the music defining the mood of certain moments from the book and in accord with that era. It became of great importance that, while playing their roles, students selected only needed information and formed a skill of simple practical decision making on the basis of the read material.

## Conclusions

It is a well known fact that efficient teaching can take place if students have highly developed cognitive activity and learning skills. At present there are many ways to develop them during the learning process. One of such ways is the usage of various up-to-date equipments in classes. Work with Web-Quest is interesting for children because it includes independent research activity, which motivates students to search for a particular information on the Internet by the given sources. Furthermore, nowadays children get very interested in everything that involves using a PC and the Internet.

Apart from that, this way of students' work on the project makes the learning process, varied lively and exciting. This sort of gained experience bears fruits in the future because working on this project many competences: of students WQ stimulated the development develop cognitive and creative skills, an ability to form knowledge without assistance, an ability to become well-oriented in the information space; it fostered the development of critical thinking and information handling skills. Working on this project, students learn to think critically, solve complex problems on the basis of circumstances and corresponding to information analysis, weigh alternative views, make carefully thought decisions in-

dependently, take responsibility for realizing these decisions and frequently found themselves in situations of choice. The usage of WQ made students independent and adapted to life. The feeling of a free choice makes an activity meaningful, deliberate, productive and more effective (Romantsova, 2012).

We suggest that at the end of the work on the WQ the level of reading literacy should increase. To be more exact, primary school students will have formed skills to interpret and generalize information, formulate simple conclusions, search for concrete information, analyze and evaluate the content, language and abstracts of the text.

Thereby, the usage of Web-Quests in the learning process can build a strong basis, for preparing children for their future.

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## WEB QUEST AS A MEANS OF PRIMARY SCHOOL STUDENTS' INFORMATION CULTURE FORMATION

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### Summary

The formation of information culture occurs in primary school. Web Quest (WQ) is one of unique educational technologies for this purpose. Work with WQ is interesting for children because it is a means of independent research activity on the Internet using specified addresses. In the current world everything connected with the computer and the global network is interesting to children. Additionally, in Russia teachers are seldom familiar with the given technology and do not use it in their practice.

We conducted a study and established that the theme about dinosaurs is very interesting and exciting for younger students. Our research is devoted to studying the influence of the WQ “Dinosaurs Before Dark” on young students’ ability to work with information, that is innovative in Russian primary schools. The objective of the research was to create WQ and the methodology for primary school students and examine its influence on the formation of their information culture. Research methods: testing and a questionnaire.

**Keywords:** formation of information culture, primary school, Web Quest, education technology, the influence of the WQ “Dinosaurs Before Dark”.

This article describes the relevance of information culture formation for primary school students. Possible solutions to this problem are considered. Moreover, by reasoning and results of research, the scientific and practical significance of information culture formation for primary school students is summed up. Fundamental learning concepts related to Computer Science usually are difficult to be acquired for first-year students in higher education. There are different reasons such as the change of the learning context or the inherent difficulty of new concepts. In recent years, high school teachers are already working on reducing the gap between high school and university by introducing some basic [Show full abstract] concepts related to digital systems. Publisher's keywords: formation of information culture, primary school, Web Quest, Education Technology, the influence of the WQ "Dinosaurs Before Dark". Language of fulltext: lithuanian, english. Full-text formats available: PDF. AUTHORS. Irina Komarova , Anna Levkina. EDITORIAL INFORMATION. None. Editorial Board. Our research is devoted to studying the influence of the WQ "Dinosaurs Before Dark" on young students' ability to work with information, that is innovative in Russian primary schools. The objective of the research was to create WQ and the methodology for primary school students and examine its influence on the formation of their information culture. Research methods: testing and a questionnaire. About Europub. Problems of formation of the future primary school teachers communicative creativity. Speech culture is based on standardized speech by which we mean speech compliance with the requirements set to the language within the specific language community during the particular historical period, observance of the rules of pronunciation, stress, language use in terms of lexical meaning, forming, making of syntactic constructions. Observations on the speech of high school students allow speaking of recession of their speech culture level. This is evidenced by difficulties experienced by perception and processing of text information, as a rule, of scientific content; rather frequently it is referred to insufficient formedness of.