

THE IMPROVEMENT OF THE INFORMATION TECHNOLOGY TRAINING EFFICIENCY FOR STUDENTS OF HUMANITIES

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Abstract

The present-day information society requires experts capable of using Information Technology in their professional activities. The emergence of professions, integrating human and natural sciences, has led to the upsurge of the requirements for the training of students of humanities in the field of Information Technology (IT). Therefore, the Information Technology course is included in the curriculum of students of humanities in the Leo Tolstoy Institute of Philology and Intercultural Communication (IPIC) of Kazan (Volga region) Federal University.

The training of students who are able to solve professional problems using the Information Technology is a priority for the IPIC. Therefore, the assignment of the primary purpose unifying the study of applied aspects of the Information Technology course, considering the examples of professionally significant problems for humanitarians, becomes an issue of current interest. It will provide the integrity of the course, improve the educational process efficiency and ensure a specific practical result for students of humanities.

Thus, the technology of understanding the main purpose of studying the Information technology course by students of humanities covers the performance of professionally significant tasks within the main topics of the course. Herewith, it procures positive attitude to the subjects studied by students of humanities, and the conditions for students' practical problems solving by means of Information Technology are being created. The acquired skills can be used in the formalizing, processing the results of research and designing the presentation for the defense of a course or graduation work.

We have developed the scientific and methodological support of the IT course, which includes a specially designed set of laboratory works to improve the skills and acquire the methods of IT work automation; the rating system for monitoring students' competencies; guidelines for IT-training of students of humanities.

The monitoring of the results of the current and final control of students' progress for 2012 – 2014 years was based on a grade-rating system. Students learning the practical aspects of the course showed the GPA of 77, and students mastering the applied aspects of the course for solving the professionally significant problems showed the GPA of 82. The results indicate the positive dynamics of teaching students of humanities in the IT-course, where the main objective of uniting the study of applied aspects of the course is highlighted and which is aimed at solving the professionally significant problems for students of humanities.

Thus, our research suggests that the assignment of the main objective of the IT-course for students of humanities, which includes the solution of the professionally significant problems for humanitarians, gives positive results, provides the integrity of the course, increases the level of the educational process efficiency and gives specific results in practice.

Keywords: Information Technology, the main objective of the course, professionally significant problems, students of humanities.

1 INTRODUCTION

The present-day information society requires experts capable of using Information Technology in their professional activities. The emergence of professions, integrating human and natural sciences, has led to the upsurge of the requirements for the training of students of humanities in the field of Information Technology (IT). Therefore, the Information Technology course is included in the curriculum of students of humanities in the Leo Tolstoy Institute of Philology and Intercultural Communication (IPIC) of Kazan (Volga region) Federal University.

However, in the process of mastering the Information Technology course by students of humanities, the problems related to the peculiarities of teaching mathematical subjects emerge: the heterogeneity

of students' training in the field of the IT, lack of systematic knowledge on the use of the IT in the educational activities, the students' attitude to the subject as to non-core.

At the same time, "the becoming of the information society requires the provision of the education adequacy for the dynamic changes taking place in nature and society, all the human environment, the increased volume of information, the rapid development of the new Information Technology" [1]. Therefore, the training of students who are able to solve professional problems using the Information Technology is a priority for the IPIC. We offer to assign the primary purpose unifying the study of applied aspects of the Information Technology course, considering the examples of professionally significant philological problems for humanitarians to provide the integrity of the course, improve the educational process efficiency and ensure a specific practical result for students of humanities. Herewith, we base ourselves on the pedagogical goal-setting theory, developed by Jacob Turbovsky [2], which discloses the learning process not only as an abstraction, revealing the essential characteristics of a particular set of events and connections between them, but as continuous and practical activities designed to realize the forming opportunities, presented in the knowledge programs, in the process of the goal-setting activities implemented by the teacher.

It is worth noting that the use of the IT is also a subject of study of many scholars and practitioners, herewith the various aspects of the use of the IT at various stages of the learning process are considered [3, 4, 5, 6]. Due to the prevalence of Web technologies in the last decade, some authors propose that "for the most successful solution of the foreground problems of the students' of humanities training, it is necessary to organize the educational process with the use of Web 2.0 technologies to increase the efficiency of interaction between teachers and students" [3]. Other authors claim that «technology helps to transform education and can make a positive difference to effective schooling when the users understand its possibilities and embrace it as a teaching and learning tool» [4]. Gina Reyers, Roger Gabb consider the use of the IT in the problem-oriented teaching of students to develop their sense of responsibility for their own training [5].

The authors' different points of view on the use of the IT in the educational process are certainly relevant and interesting. In our research, we are close to S. Terrel's point of view, who writes: «It's important to see where the students began, and where they have come! They need to have a challenge, but they need to be able to look back in the learning journey and say, I've actually done this» [7].

2 METHODOLOGY

In the process of the training of students of humanities, applied aspects of the Information Technology course (operating system, word processor, spreadsheets, programs for creation and holding of presentations, the technology of Object Linking and Embedding into other documents) were merged by a unified main purpose aimed at the solution of professionally significant philological problems for humanitarians. The experience acquired by students is subsequently fixed and used in the formalization and preparation of the research work.

Thus, the study of the word processor is aimed at the mastering of the basic methods and tools for creating, editing and formatting, as well as automating the processing of multi-page documents with different structures containing embedded graphics, spreadsheets and charts.

Students practically learn the basic rules of creating and formatting a text document according to the proposed electronic sample (Figure 1), determining the type of font, size, tracing, indentation, line spacing, paragraph settings, workspace for the header and the page margins. The paint format tool is used to automate the formatting of the typed text.

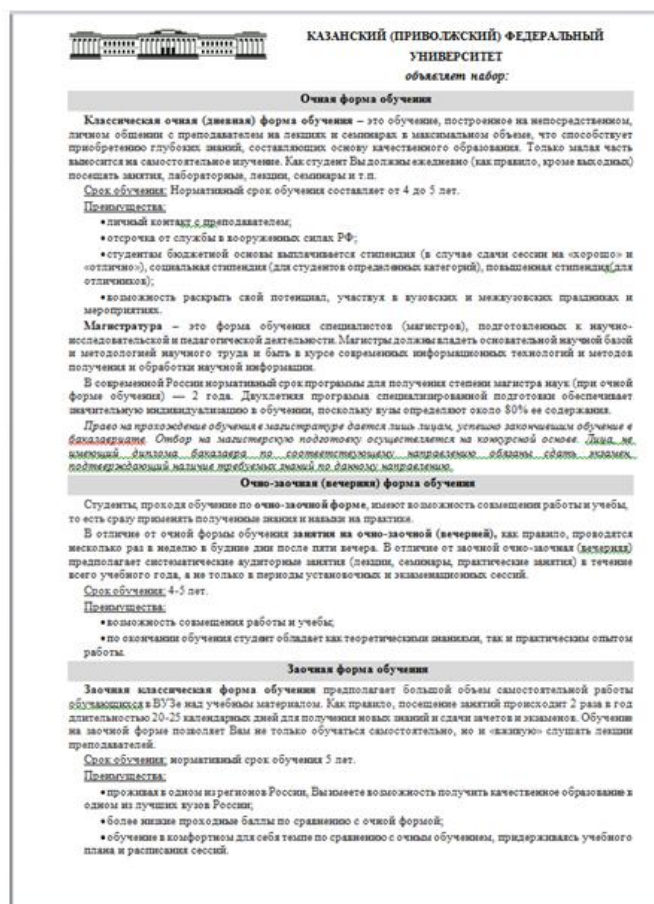


Figure 1. The electronic sample of a text document

The text document contains a picture, which is first edited in a graphics editor and then inserted into the document with the setting of its location in relation to the text by means of the "Position" and "Wrap text" tools.

Creating a text document, the spreadsheets are used for the correct positioning of the text, graphics, reporting formalization. Students learn the ways to insert tables and edit them, to represent the data in a rectangular form (merger and division of the cells, insert and deletion of rows, columns and cells; resizing cells, rows and columns; filling by the text and insert of pictures, etc.) and to use the tables to formalize complex structure data using the Layout and Designer tabs.

Multi-page documents have a complex structure which determines the interposition and the connection of its components. Students learn the methods of headings and text formatting by creating their own style, creating a table of contents with pagination, linking a multipage document by means of displacement of the paragraphs or sections, following the pagination in the table of contents (Figure 2). Footnotes, links, headers, footers are added, and a title page, an index, a list of references are automatically created in the multi-page documents.

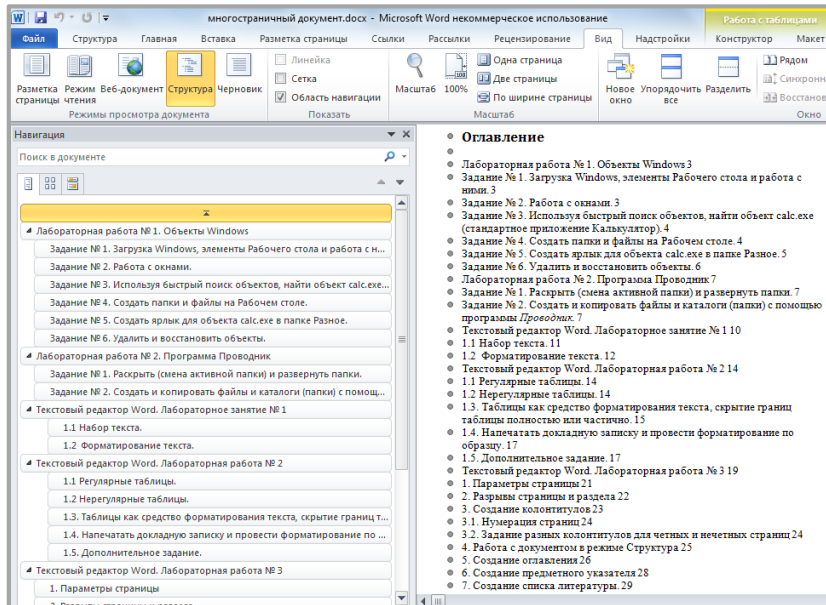


Figure 2. The fragment of the table of contents of a multipage document in the outline mode

Spreadsheets studying is aimed at the mastering of the basic operations for presenting the monitoring of the results of research in the form of tables and charts. In spreadsheets students learn methods of insertion and editing of text, numbers, formulas, working with different links in formulas, auto-complete of cells, including the fixation of addresses in formulas, spreadsheet modification, and creation of charts with the displacement into chart sheets.

Students embed dynamic tables and charts and the presentation into a text document (Figure 3) to allow modifications in case of change in the numeric data of the spreadsheet source file. To do so, the technology of Object Linking and Embedding into other documents and objects (OLE) is used.

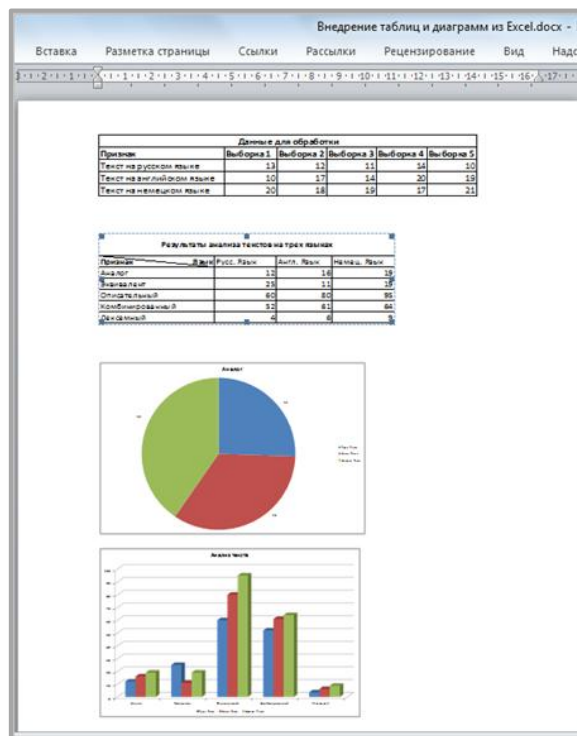


Figure 3. The tables and charts, embedded in the text document from the spreadsheet

Studying of the program for creation and holding a presentation is aimed at the mastering of methods and tools for creating, formatting and customizing a presentation for making a report. Students master different ways to create and design presentations, insert and format text, insert pictures, charts, including the embed from a spreadsheet, insert of the control buttons to operate the presentation, the use of ready-made versions of design with changing color themes and insert of ready images as a background, customizing the animation of objects and transitions between slides etc. Also, the methods of presentation setting and demonstration management are explored.

Thus, the technology of understanding the main purpose of studying the Information technology course by students of humanities covers the performance of professionally significant tasks within the main topics of the course. Herewith, it procures positive attitude to the subjects studied by students of humanities, and the conditions for students' practical problems solving by means of Information Technology are being created. The acquired skills can be used in the formalizing, processing the results of research and designing the presentation for the submission or defense of a research work.

As a result of the mastering the subject, students of humanities gain experience of using the IT to solve professional problems, including the following competencies: the ability to set a goal and choose a way of achieving it by means of the IT; the ability to use information processing methods, experimental research using the IT; willingness to use basic methods, ways and means of information production, storage and processing; willingness to use the computer as a means of information management; the ability to present the results of the personal activity etc.

We have developed the scientific and methodological support of the IT course, which includes a specially designed set of laboratory works to improve the skills and acquire the methods of IT work automation; the rating system for monitoring students' competencies; guidelines for IT-training of students of humanities.

3 RESULTS

The experimental research for determination of the level of competencies well-formedness of students of humanities, mastering the Information Technology course, was conducted from 2012 to 2014. 10 groups of students (243 people) were randomly selected for it. The control groups (the first 5 groups) studied the course with the goal setting on topics of the course only (the study of applied aspects of the course). The experimental groups (the second 5 groups) studied the course, in which the topics of the course were connected by the single main purpose (the study of applied aspects of the course for professionally significant philological problems solution).

The monitoring of the results of the current and final control of students' progress for 2012 – 2014 years was based on a grade-rating system. The level of the students' competencies formation was computed by the average values of the maximum possible number of points. Students of the control groups learning the practical aspects of the course showed the GPA of 77, and students of the experimental groups mastering the applied aspects of the course for solving the professionally significant philological problems showed the GPA of 82 (Figure 4).

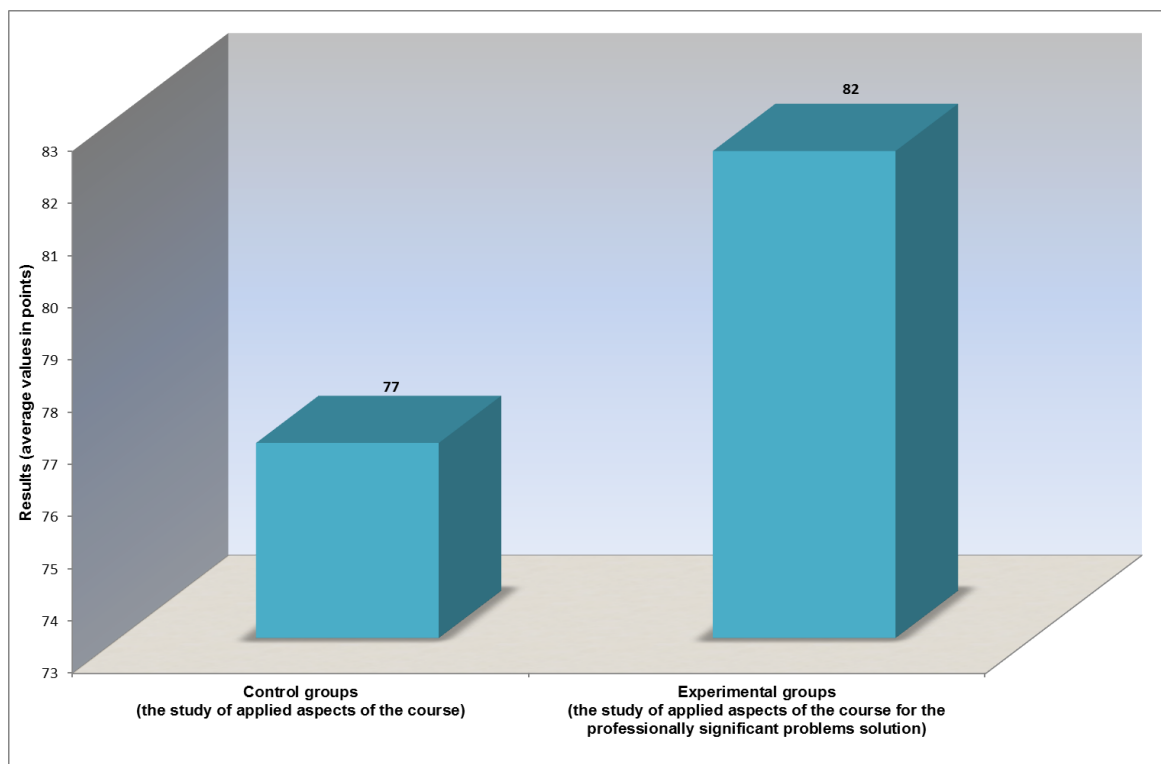


Figure 4. The students of humanities competencies formation level results in the control and experimental groups

The comparison of the results of training students of humanities, studying the course in the experimental and control groups, allows us to suggest the effectiveness of teaching the course, in which the single main objective for all of the studied subjects (applied aspects) is allocated.

4 CONCLUSION

The research conducted by us leads to the conclusion that the assignment of the main objective, unifying the study of applied aspects of the IT-course, aimed at the solution of the professionally significant problems for humanitarians, gives positive results, provides the integrity of the course, increases the level of the educational process efficiency and gives specific results in practice.

5 RECOMMENDATIONS

The research was performed in terms of implementation “The plan of activities on realization of the Program of competitive recovery FGAOU VPO “K(P)FU” among the leading world scientific-educational centers for 2013-2020”.

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