

Creation and implementation of massive open online course on discipline “Web-design and presentation of intellectual activity results” on the subject “Creation of Web Pages”

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Abstract

Relevant problems of development and introduction of materials for remote learning are considered in the paper. They are presented in the form of video course on discipline “Web design and presentation of intellectual activity results” on the subject “Creation of Web Pages”. The intensification, computerization and optimization of educational process of higher educational institutions are considered.

Key words: VIDEO COURSE, ELECTRONIC EDUCATIONAL AND METHODOLOGICAL SUPPORT, WEB DESIGN, SOFTWARE

Statement of problem in general view and its connection with important scientific and practical tasks

Today, there are a lot of platforms for development of MOOC (massive open online courses). These platforms create the special companies - educational content providers specializing in delivery of such services (Coursera, Udacity and edX). In turn, adapted platform allows user to develop each separate MOOC as a unique product.

As in the modern information society an important role is played by information, access to which is provided by means of global Internet, the specification was selected (development and introduction of massive open online course on discipline “Web design and presentation of intellectual activity results” on the subject “Creation of Web Pages”).

The analysis of the last researches and publications, where the solution of this problem is found and upon which the author is based

The subject of remote learning was considered by the following authors: Okolesov O.P., Polat E.S., Pydkasystyi P.Y., Tyshchenko O.B., Petrov A.E. and Briton Bob Gomersall. The following researchers develop and use the videos in teaching: Dmytriiev V.I., Khamyduallyna Ye.D., Hodli A.S. Researchers who use information technologies including video: Holieva L.A. Practical use of videos and their development are studied by the following authors: Horbatiuk V.F., Henseruk H.N.

Separation of unresolved earlier parts of general problem to which this article is devoted

In course of studying of literature on area of research, it was revealed that in domestic practice, the

directions of educational videos are poorly developed and studied, theoretical background prevails, and practical development affects outdated technologies. On this basis, it is possible to draw a conclusion that implementation of educational set of video records within a discipline is relevant and perspective for training of future teachers.

The formulation of paper objective (statement of problem)

Tasks are the following: to research relevance of implementation of the developed course video, to find out the efficiency and determine optimum forms of integration of video records, to reveal features of their use in educational process and how it influences improving of the organization of students self-directed learning, educational motivation, efficiency of digestion of training material in case of study of disciplines of computer profile, which object of study is Web design.

Presentation of the main material of research with full grounding for the obtained scientific results

Information and information technologies with greater and greater speed penetrate into all spheres of human life and lay down demands of the high level to training of students in higher education institution. For meeting of these requirements it is necessary to acquire the whole set of processes connected to representation of intellectual activity results by means of Web-technologies. And therefore, creation the Internet content and performance of other operations connected to calculations or programming, that is connected to work with computer, are the disciplines representing the most perspective directions of training of specialists of different profiles. The discipline "Web design and presentation of intellectual activity results" is important for beginning of professional way of bachelors in the direction of preparation 6.010104.06 "Professional education. Computer technologies", formation of idea of Web-technology and its basic principles. The knowledge of HTML is important for basic representation of materials on Web-technology, but they have not been any more that reference point in the world as it had been before. The insufficient number of classroom hours for study of discipline "Web design and presentation of intellectual activity results" and a large number of hours selected for independent study of this discipline cause a number of difficulties with study of training material. One of improving ways of material learning is use of video courses for the most difficult and basic parts of material with purpose of organization of independent study of students.

In course of development of the video record, a lot of attention is paid to integration of video sequence and audio maintenance with structure and training material. Materials of general nature and record of practical use of skills were used.

After determination of training material, which will be used, it is necessary to come up with components of development of the general concept:

- in general modern stylistics video genre will be easier to acquire information, than with a set of separate concepts;
- innovative component should be as simple as possible, for easier perception of information by pupils;
- software environment of development, that is execution of this type of operation, requires different programs which perform the specific task;
- such visual elements, as color component, suites, genre and unique methods of video series creation.

The genre animation design was selected by style which reflects the modern esthetics of video-design. Use of this genre will be expedient for several reasons:

- esthetic attractiveness of the modern style of video-graphics is the most harmonic for end customer (student or person who improves knowledge);
- its application will increase the interest to the product, and improve concentration on study;
- pedagogical and psychological methods should be considered when creating of video course. The main objective of material is to impart knowledge to the student for their learning.

This style uses a row of instructional techniques and rules of creation of video series, animation, structure. These features also depend on a software environment. Usage of After Effects is the leading program for creation of videos in the Windows operating system. For execution of work, software environment Adobe is predominantly used. And for editing of separate elements the program Pinnacle Studio 16 was used. It is rather easy to understand and has a range of opportunities for execution of this work. Such programs as Photoshop, After Effects, perform a row of tasks, and at the same time have deep program integration.

The first stage is design of general videos stylistics, which will be unique and recognizable. The use of prepared template videos, into which it is necessary to insert the text and images, is desirable only in case of already prepared general concept of disciplines. For example, availability of corporate design of educational institution could use this method for creation of the general style of all educational subjects. The style will be applied for printed materials,

as well as for electronic educational production that is conducive for distribution of recognition and increase of awareness. In case of its absence, the style will be invented from scratch.

According to color theories, the harmonic color gamma is selected. The service colorscheme.ru is an auxiliary tool for search of the appropriate colors. This service is used as a free web service. It has two main components. After selection of colors, every color is represented to the RGB model for their further copying. The next component of web service is library of color shades. Each color tone is divided into groups for convenience of usage. The models HEX and RGB of every color are seen. The main color palette from 3 “warm” and 2 “cold” colors was selected for complex of training video records on discipline “Web design and presentation of intellectual activity results” on the subject “Creation of Web Pages”. Black and white are used as complementary neutral colors.

In design, not second role is played by font suite. For this operation two fonts were used: a_LCDNova-Obl and Times New Roman.

Design of a concept, which will be further used in video format, was executed in the program Adobe Photoshop 6. It allows achievement of the following results:

- the concept can be changed in sizes without quality loss;
- fast and flexible changing of component elements;
- the work can be exported to other software for further editing;
- integration into the main program of video-design Adobe After effects.

As creation of a prototype is separate branch of development of design, it has the row of techniques and tools. For possibility of flexible change of elements, the vector graphics are used.

Set of tools allows creation of unique product, which is limited only to the imagination of developer. Vector objects contain the necessary elements as filling of figure surface with color, and its hatchings. In course of edges creation dash-dot lines are also used for simulation of graphic effects.

At the second stage, introductory video which will be repeated at the beginning of training video records, is created. According to the current trends of design, the logo of prototype discipline was repeated with its full animation. The course part of introductory video contained animation with name, animated icon play, original shift between scenes. This shift separates logical scenes of training.

On the basis of lecture material, the whole video was divided into scenes by a number of separate sub-themes of training. Not all the material was used for creation of video. As basic provisions of lecture are sounded and duplicated by the text, all training material will increase video record duration too much that will reduce attention of students. The student will acquire the remaining text with lecture material in course of distant work from methodical material. Everything that requires dynamic illustrative accompaniment for the best understanding is introduced in the video record. Duration of each scene varies depending on material, but lasts about 1 minute. This time is optimum for concentration of student attention.

Duration of scenes depends on audio maintenance. For this purpose, it is necessary to plan the scenario, in which the selected text comes after sound. For sound recording, the specialized microphone with noise reduction system (SVEN MK-490) was used, and the software Adobe Audition was used for processing and conversion of sound. The system multi-track record allows recording at the different levels of audio flow. The sound recording can include excess noise and shortcomings. For this purpose, there are means allowing partial improvement of sound by reducing of excess outside sounds. This is one of the main methods in Audition - Noise reduction.

Distinguished features of style of animation design are dynamics of graphic elements, laconicism of information provision, flexibility of elements, and fast rate of video effects and shifts. However, for the training video record, it is necessary to pay not less attention to content, that is to find the best combination of training material with graphic stylistics. Videos in this style can be created for enough long time. For creation of product lasting several minutes, it can be spent about several weeks. Therefore, for optimum time of each lesson creation, it is necessary to develop template elements of design in the context of company stylistics.

List of template scenes:

- a row of charts elements, certain style of lines and auxiliary elements (arrows, the beginning and the end of operation) are developed for diagrams. Without overloading of colors, the three-colored diagram is used: dark-red for the text and shaped lines of charts, black for color of lines and arrows, green for specifying of the beginning and the end of content.

- Beginning of subject. After shift, the name and number of lesson goes as separate slide. Scenes with sub-themes of lecture material go as additional screens.

- Code scenes. In the developed style, the main body of code appears together with lateral face behind which additional elements of design can be displayed; these elements can indicate importance of present situation to what special attention should be paid. In code scenes, there is also common text where the thesis accompanies a sound row of the speaker.

- Text scenes. These scenes are minimized because the main text is in a sound row which accompanies dynamic elements of design, code, and selected text.

- Scenes with visual additional elements. Such scenes without text by means of various means of design visually present the text, process, and model.

Sample scenes will help to vary training material more flexibly. If it is necessary, the modularity will allow interchanging of the position of material, changing of outdated one and correcting of errors. In Adobe After Effects, these scenes are part of composition. First of all, the project is created, then the main composition in which time duration parameters, sizes of a video series, picture frequency in a second, background color are set, is created. The basic composition can be used as the main scene of the first lesson. The basic composition will consist of compositions of separate sub-themes of lesson, and also of such compositions as transitions of scenes. All these scenes of one lesson will be combined in one folder as all created compositions to be in the joint project. Absence of the organization can worsen orientation in the available materials. In After effects, there are two main panels for the organization of the available materials: project and line of time (English Timeline). Further, they are used in Timeline where are arranged in a definite way as it is demanded by technological process of creation of these or those scenes.

Layers of the form can be used in animation and transformed by means of additional effects, changes of their main properties, addition of masks. Feature of a body are the following: constant shape, which can be changed only by means of additional masks, and also the fact that they are created and stored in the Project panel that makes it possible to use dynamically them for future replacement by other images. The form is more intended for creation of complex objects and their coherence. At the same time, it is possible to add parameters as filling of objects; it gives a number of additional opportunities for creativity. The possibility of creation of mask exists as in a body, and in shape, however, only the body has a possibility of automatic creation of mask in the area of the whole object.

Thus, it is always possible to add a mask of form of the main or any figure to rectangular area of a body.

There is an opportunity to export prepared prototype of work with Photoshop, however, the vector After Effect elements have technological features; therefore, all the elements will be redrawn again. The introductory part consists from five-color transition, the name of course and subject of lesson. A role of strips will be performed by forms which will be cut off by Linear Wipe and animated by means of effects. This effect is included into group of effects Transitions and is intended to create border with a certain angle which will hide part of the image.

The effect will be used further for animation of appearance of some elements, text and code. Dynamics of the movement of this line will create the necessary animation. The basis of all animation in After Effects consists in use of Keyframes.

During animation creating, need of application of the same effects to various layers very often emerges. For this purpose, the auxiliary object (null object) is used. It is enough to connect any layer with null object having used an option opposite to the layer. The quantity of layers which can be connected to one null object is limited. Further use of keyframe for null object will be displayed on all layers connected to it.

After all the thematic parts are ready, it is high time to connect them by means of the program Pinnacle studio 16. Prepared projects can be exported to a set of formats including video for web, DVD, Blu-ray, video HD, etc. Many various effects and transitions are built in the program. The sound in the Dolby Digital 5.1 format is maintained. According to the planned scenario, it is necessary to arrange video and audio material. Each unit should correspond each other. Additional attention is required by voice of the speaker when editing. After its record and processing by Adobe Audition, it conforms to all technical requirements. But in order to avoid sharp transitions, it is necessary to use function of audio volume setting of audio track. After editing is complete, we select video output option. Further, we select item of setting where there is a possibility of optimization of parameters of video output.

Further approbation of complex of video records in educational process of discipline “Web design and presentation of intellectual activity results” on the subject “Creation of Web Pages” for the purpose of improvement and determination of optimum forms of integration of video of courses into educational process of disciplines has been carried out; object of study is web design and language of html of the document.

Developed videos are used as evident illustrative

material for increase of understanding of the theory, and for process of learning and memorizing of material by the student.

In order to check a research hypothesis which consists in the fact that success and level of understanding of training material of discipline will be increased in case of integration of video course into it; practical implementation of course to educational process has been carried out.

The video course has been shown when studying the following material on the subject "Creation of Web Pages": creation of the Web page; work with hypertext references; placement of drawing in the Web page; addresses and conditions of the Web page on the Internet; addition of graphics in HTML code; Web graphics bases.

Approbation of videos was carried out on the basis of Educational and scientific professional pedagogical institute of Ukrainian Engineering and Pedagogical Academy at department of electronics and computer technologies of control systems of students of full-time education group ADET - K11 within classes in disciplines "Web design and presentation of intellectual activity results" in classroom lessons and organization of independent work of students in system of remote learning. Results of training of students of group ADET - K11 in the form of total points have been compared to results of the previous group. According to comparison, the coefficient of quality has grown by 12,5% that demonstrates improvement of group study in general.

Conclusions of this study and prospect of further researches in this direction

Interpretation of results of experiment has allowed drawing of conclusions on efficiency and effectiveness of use of video course on lecture and independent trainings.

Systematic use of the developed pedagogical software product in classes gives the chance to note the following supervisions:

- increase of interest in material due to emphasis of the video to more complex features of HTML marking, its visual representation;

- modern video series of animation design applies associative skills of students, stimulates students to ask more questions;

- than time is spent with lecture material at independent training;

- use of the video record requires from the lecturer more use of means of ICT on lecture classes;

- possibility of loading of video in MOOC platforms avoids necessity to use intermediate transmission media of material from the lecturer to students, and need to save this information in data storage item.

As a result of approbation of educational complex of the video record, it is possible to draw a conclusion that its introduction in process of training is expedient, and affect positively the results of training.

During further work, deep study of successful foreign models of training materials, expansion of a complex of video records on discipline "Web design and presentation of intellectual activity results" is planned, and also application of experience obtained in case of development and introduction of video course into educational process of other disciplines of Teaching and Research Institute of Professional Education of the Ukrainian Engineering and Pedagogical Academy.

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