

MINISTRY OF DEVELOPMENT INFORMATION TECHNOLOGIES AND
COMMUNICATION OF REPUBLIC OF UZBEKISTAN

TASHKENT UNIVERSITY OF INFORMATION TECHNOLOGIES

*Admitted to the defense
Head of department
“Information educational technologies”*

« » _____ 2016 y.

FINAL QUALIFYING WORK

“CREATION OF ELECTRONIC EDUCATIONAL RESOURCES FOR
PRACTICAL WORKS FOR THE SUBJECT “IT IN EDUCATION”
WITH USING ADOBE SOFTWARE PACKAGE.”

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Tashkent 2016

MINISTRY OF DEVELOPMENT INFORMATION TECHNOLOGIES AND
COMMUNICATION OF REPUBLIC OF UZBEKISTAN

TASHKENT UNIVERSITY OF INFORMATION TECHNOLOGIES

Faculty Professional education in sphere ICT

Department “Information educational technologies”

Direction 5111000 “Professional education: Informatics and information technologies”

CLAIM

Head of department

“Information educational technologies”

« ____ » _____ 2016 y.

TASK

for final qualifying work of
Atahanov Jasur Mansurxanovich

on subject: “Creation of electronic educational resources for practical works for the subject "IT in education" with using Adobe software package”

1. The subject was claimed with order of university «15».12.2015 № 1324-20
2. The deadline of delivery finished work 25.05.2016
3. Raw data for work lecture, books, methodical applications, articles, web-sites, multimedia applications
4. The content of settlement and explanatory notes (list of the subjects, which are to be developed), abstract, introduction, Chapter 1, Chapter 2, Chapter 3, conclusion, list of references, the application
5. The list of graphics drawings, diagrams, tables, screenshots.
6. The date of issue the task 24.12.2015

Consultant _____
signature

Task taken _____
signature

7. Consultants of separated sections of the final qualification work

Name of the part	Consultant	Signature, the date of issue	
		Task given	Task received
MAIN PART	<u>Akhatova R. Yu</u>		
SAFETY OF VITAL ACTIVITY	Amurova N. Yu		

8. Graph of the performing the work

№	Name of the part	Execution date	The signature of consultant
1.	Introduction	24.12.2015	
2.	Analysis of existing software «Adobe» for the development of e-learning course	30.01.2016	
3.	The development of e-learning course on the subject "IT in education"	08.04.2016	
4.	Life safety	15.05.2016	
5.	Preparation presentation	17.05.2016	
6.	Report	19.05.2016	
7.	Provisional protection	25.05.2016	
8.	Protection	31.05.2016	

Graduate Atakhanov J.M « » _____ 2016 y. _____

Consultant Akhatova R. Yu « » _____ 2016 y. _____

This final qualifying work is devoted to the creation of an electronic course of lectures on the subject "Information Technologies in education. Also there described given examples of the use of electronic course in the learning process and stages of create a course of lectures. Particular attention is given to the use of «Adobe» software. The practical significance of the developed courses in the educational process is to facilitate the perception of the material taught and improving the quality of education. Also the represented aspects of life safety.

Ushbu malakaviy bitiruv ishi "Ta'limda Informatsion Tehnologiyalar" fani bo'yicha electron ma'ruzalar yaratishga bag'ishlangan. Ta'lim jarayonida electron ma'ruza kursini qollash imkoniyatlari va uni yaratish bosqichlari korsatilgan. Malakaviy bitiruv ishida "Adobe" firmasining dasturiy mahsulotlaridan foydalanishga katta e'tiborko'rsatilgan. Ushbu electron qollanmaning amaliy ahamiyati oquv jarayonida qulaylik yaratishga va ta'lim sifatini oshirishga qaratilgan. Hamda sog'liqni saqlash va xavfsizlik masalalari korib chiqilgan.

Данная выпускная квалификационная работа посвящена созданию электронного курса лекций по дисциплине: «Информационные технологии в образовании». Приведены примеры использования электронных учебных пособий в процессе обучения и этапы создания курса лекций. Особое внимание уделено применению программных продуктов «Adobe». Практическая значимость разработанного курса в учебном процессе заключается в облегчении восприятия преподаваемого материала и повышении качества обучения. Также рассмотрены вопросы безопасности жизнедеятельности.

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Introduction

Education must stay ahead of life. How education can get ahead of life? It is clear that to teach that which is not yet impossible. But to give the student advanced knowledge, at the same time orienting it to the solution of fundamental, conceptual issues - you can. It is the conceptualization of education in the field of specific implementations stimulates the search for new, better, more courageous decisions.

In recent years, increasingly raised the issue of the application of new information technologies in the educational environment. The desire of progressive teachers to meet the increasing demand for education by leveraging the capabilities of information technology brings to life new forms of learning.

Nowadays increasingly used computer technology in the educational process. The student just living in the electronic culture. But for greater understanding of the student teacher, the teacher must using modern methods and new educational technologies.

Today, when information becomes a strategic resource of development of society and knowledge in the subject relative and unreliable, as quickly become obsolete and require in the information society, constant updating, it becomes evident that modern education is a continuous process.

Computerization is an objective process in all spheres of human activity, including education. The goal of Informatization of education is the global intensification of intellectual activity through the use of new information technologies.

Information saturation of contemporary society, its functionality at a decent level today assume such a speed of movement of information, which can provide only a computer network, integrated into the global information space.

Over the past decade there has been a significant increase in the volume and complexity of materials. Great difficulties often arise in surgical preparation,

manufacture and distribution of electronic learning resources of various kinds. These factors have a negative impact on the quality of training. In this regard, in modern educational institutions much attention is paid to computer support of professional activities. The training process uses a training and testing programs in various disciplines of the educational process.

The ability to extract, process information and use it to date is a very valuable asset. Therefore, the challenge is not only to give children knowledge, but to teach pupils to produce them and to learn by yourself. To be able to learn means being able to teach himself to be not only a disciple, but also your own teacher. Tasks of development of universal skills and meta knowledge should not only be posed to the students and accepted them.

The reform of modern education could take place only under condition of creation of such computer packages (electronic education resources, manuals, simulators, testers, etc.), which will provide the same computing environment in a specialized classroom on practical exercises in a computer class learning institution, equipped for independent work of students, as well as at home on a personal computer.

New information and computer technologies help in achieving educational goals. Technical training has always been used mainly to enhance the visual learning. Today, ICTs offer new possibilities for the management of educational-cognitive activity, for its intensification. During the years of independence Uzbekistan has seen dramatic changes in our society, radically changing the education system, as well as changing goals facing our educational and information industry.

In Uzbekistan there were documents on the basis of which changed the system of education in the Republic, thereby modernizing the educational institutions. Creates the necessary Foundation and conditions for further sustainable development of education, optimizing the learning process for integration into the world information space. On the basis of the guideline that "the full development of the

person of our age can not be performed outside of the formation of cognitive interests and the relevance of the problem of teaching new information technologies in modern education, and in accordance with the Law of the Republic of Uzbekistan "On Informatization", the decree of the President of the Republic of Uzbekistan from may 30, 2002 №-3080 "On further development and implementation of information and communications technology ministries and departments, public associations of Uzbekistan carries out purposeful work on development of information and communication technologies and services in the field of education, spiritual and moral development of young people [1].

Object of work: electronic educational resources, optimizes the educational process at studying of discipline "Information technologies in education".

Subject of work: The process of studying the modern means of training with the use of information technology.

The aim of this work: The creation of electronic education resource that can improve the process of teaching "Information technologies in education".

To achieve the goal of the work the **following tasks:**

1. Analyze the special software to identify the characteristics of the design of electronic educational resources.
2. To consider and determine the stages of design and development of electronic educational resources.
3. To develop the content of electronic educational resources to fully contain the necessary and sufficient material on the subject "IT in education".

Practical significance: Designed course fully reflect the lecture material and can be used both in the lectures and during independent work by students.

Chapter I. THEORETICAL BASIS OF USE OF PRACTICAL WORK IN EDUCATIONAL PROCESS

1.1 Types of Electronic Educational Resources

Kinds, structure, technologies

The development of information technology has given rise to a new form of education - electronic educational resources, this is training with the use of information and communication technologies. The basis of e-learning are e-learning resources. Under electronic educational resources to understand educational resource presented in digital form, for which the necessary computer equipment Fig. 1 In general, the educational resource includes a structure subject content and metadata about them.

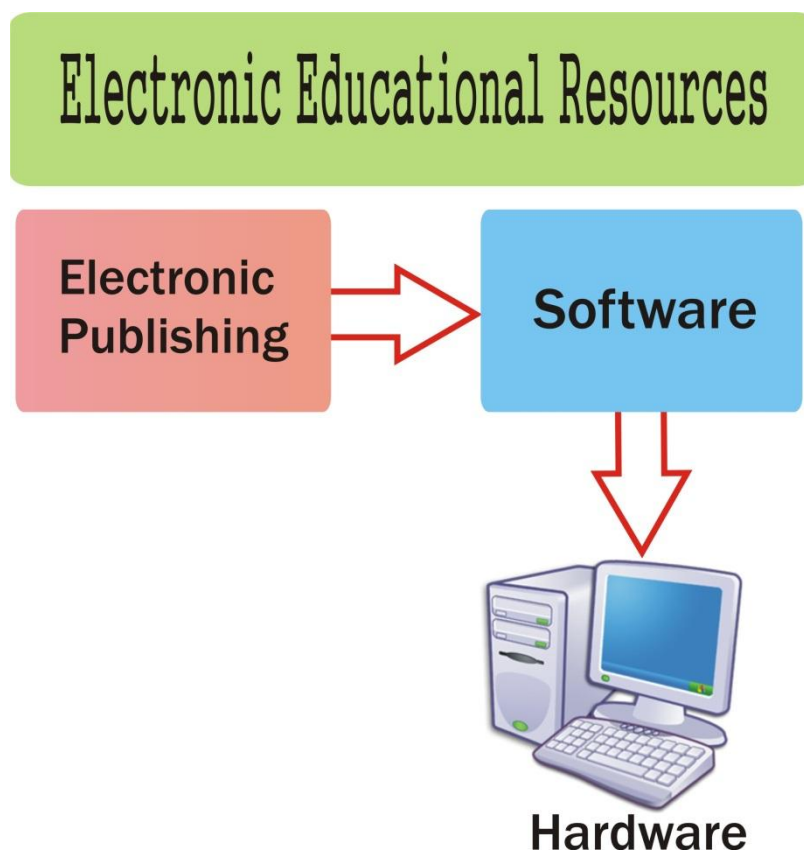


Fig. 1 *The structure of electronic educational resources*

Structured and subject content to be used in the educational process, called educational content. Metadata educational content - that is, information on educational content, which characterizes its structure and contents [4].

Electronic educational resources can include data, information, software necessary for its development and use in the learning process.

Types of educational resources

E-learning resource is the educational content. Metadata electronic educational resources contain standardized information needed to search for a resource through technological learning.

The system of electronic educational resources, educational information services, tools and technologies built on hardware and software platform, which provides the use of electronic resources and services for educational purposes, is an information educational system (another often used name - automated training system).

The content of electronic educational resources, the last editorial and publishing process, and having an imprint intended for distribution in unchanged form, is an electronic edition. The content of electronic educational resources can be represented as:

- *Textbook - edition*, containing a systematic exposition of the discipline, its section of the corresponding curriculum, and approved for use in the educational process of the appropriate level of education;
- tutorials , supplemented or replaced in part or in full tutorial and approved for use in the educational process of the appropriate level of education;
- *Training manuals* - publication containing materials on teaching and learning of the discipline, its section or part;

- *Educational visual aids* - publication containing, as a rule, graphic materials to aid learning and teaching;
- *Tutorial publications*- for self-study teaching material without the help of the head;
- *Workshop* - publication containing practical tasks and exercises that promote the absorption of the passed [5].

In addition to electronic educational resources we can refer computer tutorials and automated training courses are not officially uncertain. Computer training program is usually a systematic presentation of specific educational material for the study of the question of the curriculum, including text, illustrations (including multimedia) teaching material, links, checklists.

Computer training programs designed for independent work of students, and to work under the guidance of a teacher. Computer training programs, in addition to knowledge acquisition, can provide and obtain some skills. Computer training programs aimed at the study of a section of the curriculum are combined into automated training courses that are essentially electronic educational complex

Fig. 2

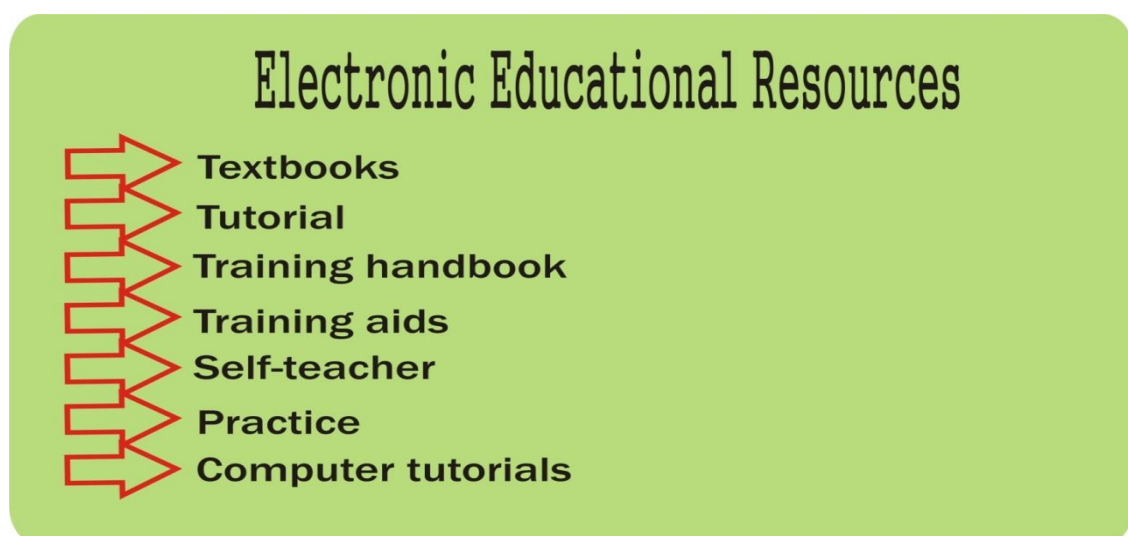


Fig. 2 *Parts of electronic educational resources*

Electronic publications are divided into independent - originally created in digital form, and derivative, if they are based or in their composition are used publications. If the electronically reproduced in full print edition, it is an electronic copy of the original edition, but not electronic edition.

Electronic publications may be spread different conditions. For example, local electronic publications are distributed on removable media or computer-readable files, intended for use on dedicated devices (iPods). Network Distribution Publications available on servers, and access is provided via information and telecommunication networks (Internet or LAN). There may be electronic editions and comprehensive distribution [6].

By way of interaction between electronic publications can be deterministic order of interaction which is determined by the manufacturer and cannot be changed by the user, and interactive, interaction with which the user sets using the algorithms defined by the manufacturer see Fig. 3

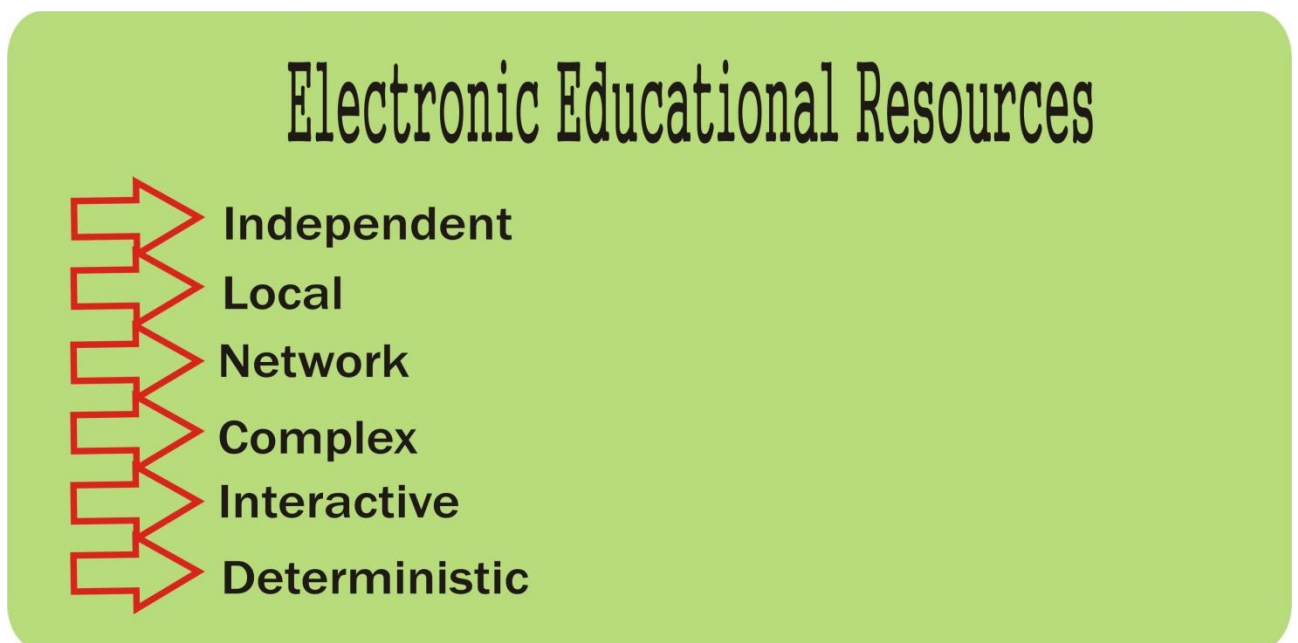


Fig. 3 Ways to communicate EER

1.2 Structure of electronic educational resources

A structured set of electronic educational resources containing interrelated educational content and intended to be used together in the educational process, forming an electronic training complex. The structure and educational content of the electronic educational complex determined by the specific levels of education, educational programs and the requirements of other normative and methodological documents. Electronic educational and methodical complexes can be created for the study of individual disciplines, training modules, complexes of disciplines, as well as for the implementation of the educational process as a whole.

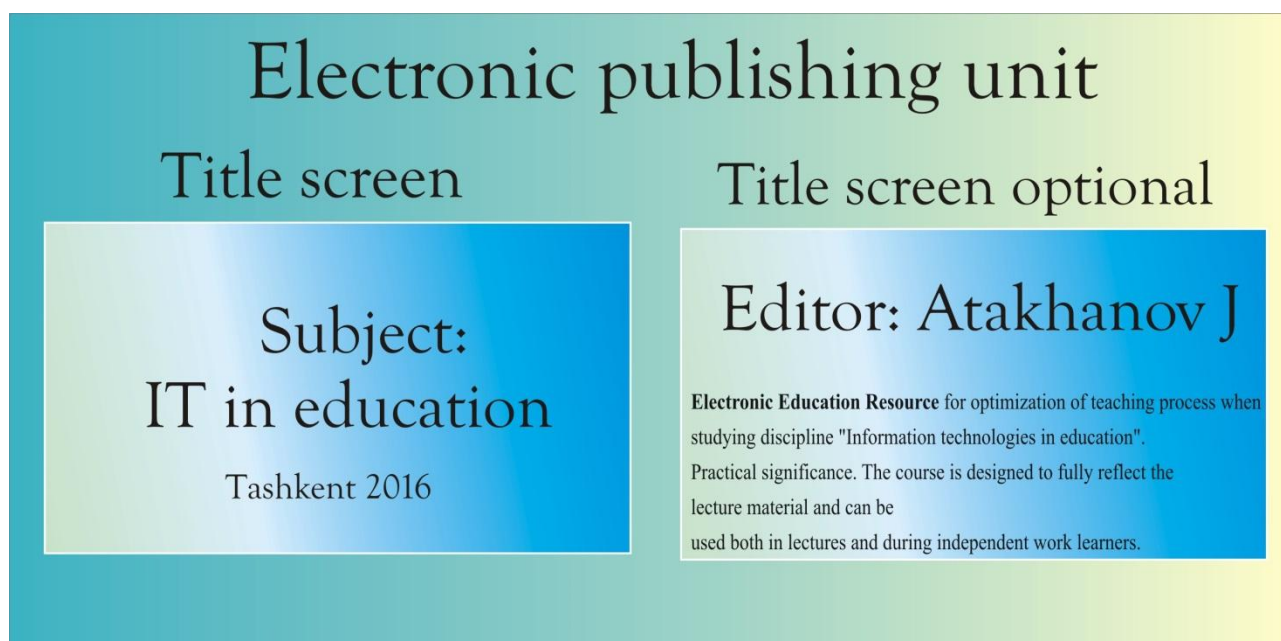
School edition, to be used in the educational process must undergo a scientific, literary, artistic and technical editing, reviewing and expertise to assign an official fingerprint, defining its type and level of use.

E-learning content, not the past editorial and publishing process, can not be attributed to the electronic edition.

Imprint publications contain a set of data in text form describing the publication and intended for its unambiguous identification, consumer information, bibliographic processing and statistical publications. The composition and the location of the output of the electronic publication of information depend on the type of e-publication, distribution, technology, design, the number of physical media.

Imprint placed on the main title screen and additional, interconnected passages. The most important information are posted on the main title screen, located above the exhaust outlet and the data on the additional title screen. Home screen wallpaper can include - static or dynamic mapping of the main ideas of the work, decorated pictorial or audible means, the text information to graphic elements. Thus, the main title screen serves as the title page of the printed edition and the additional title screen - the role of the reverse side of the cover sheet of the print edition.

electronic edition Imprint executed in text form, should be available regardless of the method of using the edition. A feature of the electronic edition is the placement in the output on the additional title screen the following information: the amount of data (MB); the duration of the audio and video clips (min.); Publishing equipment (number of carriers, the availability of documentation, etc.); circulation (for local electronic media on removable media); CPU requirements (type, clock frequency), to the free memory on the hard drive and RAM, operating system, video system, sound system, additional software, and peripheral equipment. Minimum system requirements online edition, in addition, include requirements for the browser (type and version), connection speed information and telecommunications networks, additional add-ins to the browser Fig. 4



The main study material of electronic textbooks, as well as printed, depending on its purpose and structure of the educational program may have structural units: parts, sections, chapters, paragraphs and subparagraphs. The main element of electronic textbooks is a screen page (frame). The frame (one screen) - addressable electronic publication content component, which is usually logically complete information and / or controlling the structural unit Fig. 5

Electronic Training Session

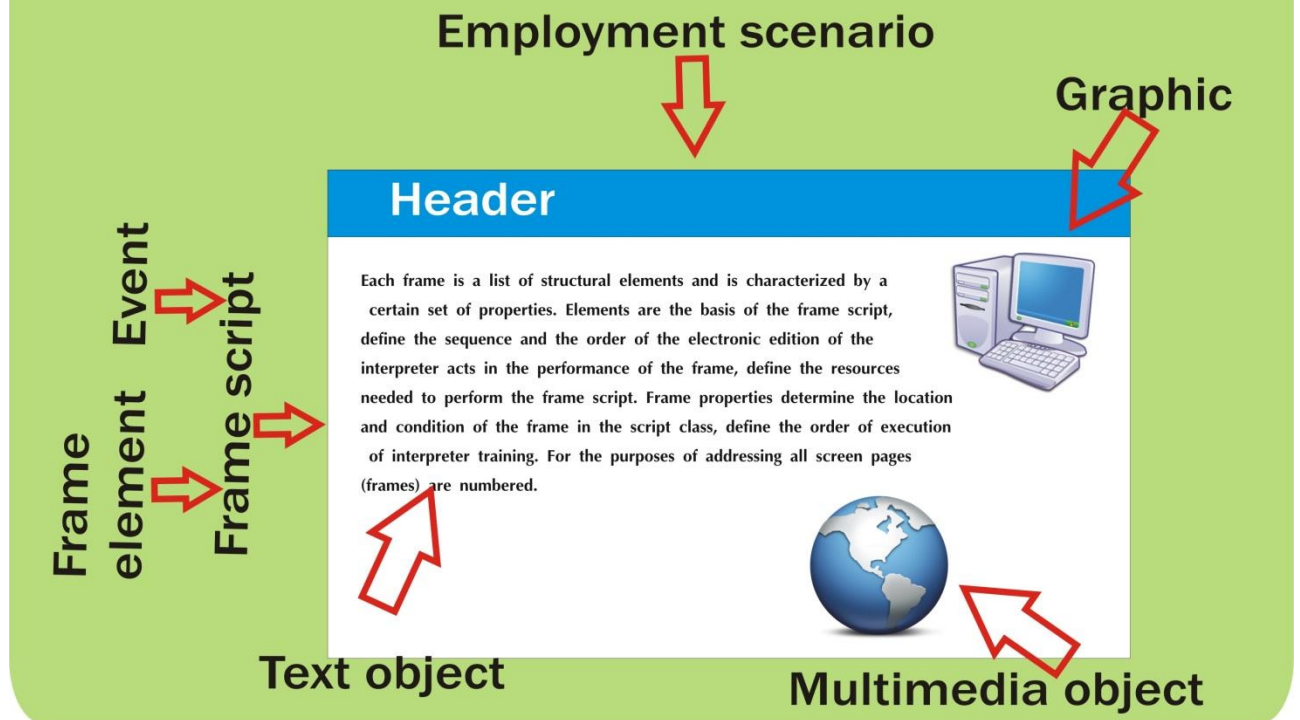


Fig. 5 EER content

Frame element - named unit of the on-screen page, the structural part of the frame, giving the interpreter a command or set of commands, containing data or references to them and describing the conditions to execute a command. Elements are the basis of the frame script [6].

The object - a frame element that exists in time for the pre-defined rules that define the conditions for the appearance and removal of the object, the event on the occurrence of which he reacts, and the actions that need to be activated upon the occurrence of specified events. Objects can be text, graphics, multimedia, etc., used by the author for the implementation of the learning objectives.

Electronic publications may be different propagation conditions. For example, local electronic publications are distributed on removable media or computer-readable files, intended for use on dedicated devices (iPods). Network Distribution Publications available on servers, and access is provided via information and

telecommunication networks (Internet or LAN). There may be electronic editions and comprehensive distribution.

Electronic educational resources: educational resource presented in digital form and includes structure, subject content and metadata about them. Electronic educational resources can include data, information, software necessary for its use in the learning process.

By the nature of reporting divides EER for multimedia, software, graphic, audio, text, electronic publications analogues. Thus, EER is positioned as the main concept, located on the top of the hierarchical system.

All variety of EER can be subdivided into information sources and information tools. Information source - is an umbrella term describing the different types of data objects. From the standpoint of use in the learning process it is important to distinguish between the ordinary sources of information (sound, image, text, video, model) and complex, containing simple information sources related hyperlinks (for example, multimedia encyclopedias).

Among the sources of information can be made available (on the goal of a) general cultural information sources (resources) that exist independently of the educational process (cultural and historical heritage, natural objects and phenomena); educational information sources (resources designed specifically for the purpose of the learning process).

Information tool of educational activity - a software product that allows the student or teacher to make active actions on information sources (objects) to create, change, communicate, transfer, etc. Among the information tools are:

- general custom tools used by teachers and students (web browser, mail client software, view graphics programs, multimedia file playback software, text editor, editor of vector graphics, raster graphics editor, photo editor, editor of multimedia presentations, video editing editor and etc.);

- specialized educational tools used by teachers and students (integrated constructive creative environment, including tools for visual programming, training simulator keyboard writing; simulator formation literacy skills letter; simulator computing skills; editor of the visualization and analysis of historical information, a tool for organizing the project activities; tool fixation and imaging data set of digital sensors used in general education; environment for managed devices programming used in general education, etc.);

- Tools organization of educational process used by teachers (e-zine; job training tool for students, computer management tool students; organization system management information educational space; organizing tools and conducting lessons, coordinated with an electronic magazine; organization tool monitoring learning outcomes; tool remote support the educational process and so forth.).

Based on the foregoing, in the category of pedagogical EER select electronic educational publications; all other pedagogical EER categorized as e-learning materials [6].

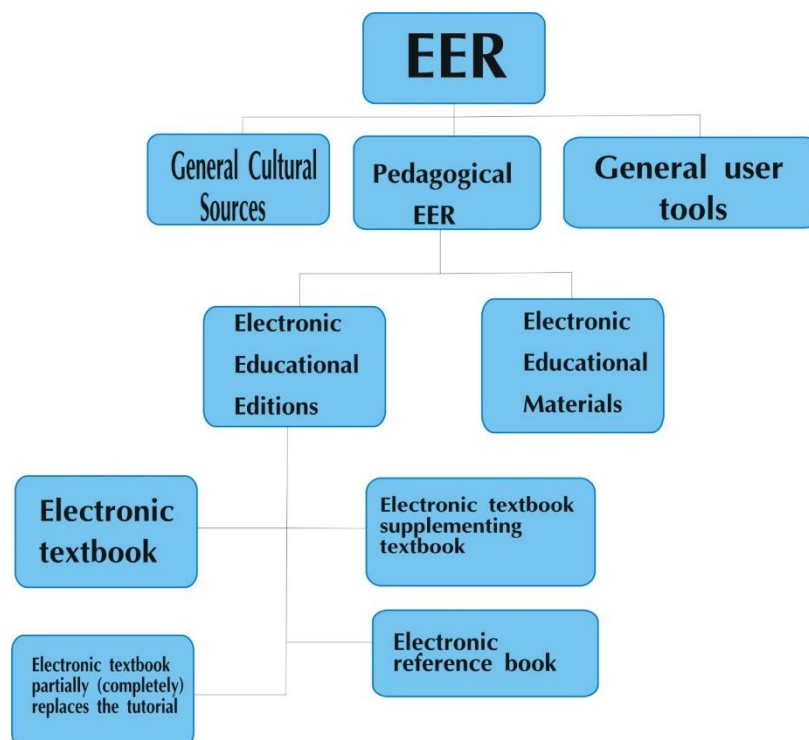


Fig. 6 *Typology EER*

1.3. Description of the application package «Adobe»



Adobe Systems Inc. - Software development company headquartered in San Jose (California), founded in December 1982 by John Warnock (John Warnock) and Charles Geschke (Charles Geschke).

Adobe's products are used by millions of people around the world. More than 90% of professionals in the

design table using bitmap editor Adobe Photoshop in their daily work. Vector editor Adobe Illustrator and Adobe InDesign typesetting software tools complement the prepress specialists and designers. At more than 90% of computers worldwide installed free of Adobe Reader and Flash Player. The main achievement of the company is the development of the PostScript page description language (postscript) used in desktop publishing, and cross-platform PDF format electronic documents (Portable Document Format), which is an open ISO 32000 standard.

Products:

Current Software:

[Adobe Creative Suite](#)
[Adobe Acrobat](#)
[Adobe Acrobat Connect](#)
[Adobe After Effects](#)
[Adobe Dreamweaver](#)
[Adobe Flash](#)
[Adobe Flash Builder](#)
[Adobe InDesign](#)
[Adobe OnLocation](#)
[Adobe Photoshop](#)
[Adobe Premiere Pro](#)
[Adobe Acrobat Capture](#)
[Adobe Captivate](#)
[Adobe eBook Reader](#)

Acquired

Purchase Software:

[Syntrillium Cool Edit Pro](#)
[Macromedia Studio](#)
[Macromedia Dreamweaver](#)
[Macromedia Flash](#)
[Macromedia Fireworks](#)
[Macromedia Contribute](#)
[Macromedia FlashPaper](#)
[Macromedia Authorware](#)
[Macromedia Breeze](#)
[Macromedia Central](#)
[Macromedia ColdFusion](#)
[Macromedia Director](#)
[Macromedia FlashCast](#)
[Macromedia Flash Media Server](#)

[Adobe Flash Player](#)
[Adobe Flash Catalyst](#)
[Adobe Fonts](#)
[Adobe Photoshop Lightroom](#)
[Adobe Media Player](#)
[Adobe PageMaker](#)
[Adobe Reader](#)

[Macromedia FreeHand](#)
[Macromedia HomeSite](#)
[Macromedia JRun](#)
[Macromedia RoboHelp](#)
[Macromedia Shockwave](#)
[Macromedia Web Publishing System](#)
[PageMaker](#)
[Serious Magic DV Rack](#)
[Serious Magic ULTRA](#)
[Serious Magic Ovation](#)
[Serious Magic Visual Communicator](#)

Adobe Captivate

Adobe Captivate (formerly known as RoboDemo) - a program for creating and editing e-learning courses are used in e-learning for Microsoft Windows, and the fifth version of Mac OS X, which can be used to demonstrate the software, recording video lessons, create a simulation program, create training presentations and various tests in .swf format. The ability to convert the generated Adobe Captivate .swf to .avi, for uploading to video hosting sites.



Adobe Captivate can be used to create screencasts, podcasts, and convert Microsoft PowerPoint presentations in Adobe Flash format.

Features:

With Captivate, you can create and edit interactive demonstration programs, simulations, podcasts, screencasts, games and lessons. For demonstrations of programs can be recorded in real time.

Created using Captivate screencasts take up much less space than a full-fledged recording screen.

Users can edit Captivate presentations to add effects, hotspots, text areas, video, etc. Authors can edit contents and change the time of occurrence of an element. Clicking on the active points can be translated as other slides, and on the external links. Captivate supports importing images, PowerPoint presentations, video, .flv and audio to any slide of the project.

Adobe Acrobat Connect



Adobe[®] Connect[™]

Adobe Acrobat Connect - software for Web conferencing software that allows individuals and small businesses to instantly communicate and collaborate through an easy-to-use online access. Adobe Acrobat Connect is part of the Adobe family, and consists of a set of modules:

Adobe Connect Pro Meeting - means the organization of meetings and seminars on the network in real time. It allows users to make presentations, share files, streaming audio, video, and also serves as a means for the organization of multi-user video conferencing. You can save the already created virtual meeting rooms and their contents for instant access to them - such an opportunity to significantly reduce the time of preparation for seminars, meetings and conduct presentations.

Adobe Connect Pro Training - Tool that allows you to create, manage, implement and monitor the distance learning courses. It allows you to develop training programs that can combine both individual training plans based on the courses created with Adobe Presenter, and third-party materials and interactive learning under the guidance of a teacher.

Adobe Connect Pro Events - Tool life-cycle management of all events related to participation in meetings and training sessions, such as the assessment of students, registration for courses, notification and reporting.

Adobe Photoshop



Software used Adobe Photoshop opens new perspectives in digital imaging, combining powerful tools for working with photos, excellent selection and coloring of images, as well as the function of intellectual retouching.

Adobe Photoshop corresponds to a leading industry standards and allows you to create a professional image. With the new version of the software Photoshop, you can easily select and mask intricate image elements, such as hair, remove any elements of the image with instant intellectual filling the empty area to create magnificent images extends the dynamic range (HDR), paint the objects created using a brush with natural realistic texture and color blends, remove noise, add grain and adjust vignetting using the most advanced tools for processing images.

Support various file formats:

Follow the import and export of hundreds of different file formats, including PSD image formats, AI, PDF, NEF, CRW, TIFF, BMP, Cineon, JPEG, JPEG2000, FXG,

OpenEXR, PNG, Targa, and 3G video formats, FLC, MOV, AVI, DV Stream , Image Sequence, MPEG-4, FLV.

Extensibility. Change the Photoshop settings and use additional opportunities to work with images using specially designed palettes, download plug-ins and third-party resources with the Adobe Photoshop Marketplace website and learn tips and tricks for working on the Adobe Community Help.

Adobe Flash

Adobe Flash (formerly Macromedia Flash), or simply Flash (. / Flæʃ /, Russian flash), in Russian often pishutflesh or flash) - Adobe Systems multimedia company platform for creating web applications or multimedia presentations. It is widely used to create advertising banners, animations, games, and play on the web pages of video and audio recordings.



The platform includes a number of development tools, especially Adobe Flash Professional (SeychasAdobe Animate) and Adobe Flash Builder (formerly Adobe Flex Builder), as well as a program to play flash-content - Adobe Flash Player, although the flash-content are able to play and many players party. For example, SWF-files can be viewed using the free pleerovGnash or swfdec, and FLV-files are played through the media player QuickTime and various players in the UNIX-like systems with the appropriate plug-ins.

The standard extension for compiled flash-file (animation, games, and interactive applications) is .SWF (Small Web Format; previously stood for Shockwave Flash, which caused confusion with ShockWave). Videos in Flash format are files with the extension FLV or F4V (with Flash in this case is only used as a container for video recording). Expansion FLA file matches the format of working in the development environment.

However, when this program is used to work on the animation, then this type of animation is a mixture of hand-drawn and computer animation, though all the characters of cartoon 2D format.

Adobe Premiere Pro



Adobe Premiere Pro - a program that allows you to perform a non-linear video editing. Adobe Premiere Pro is the perfect tool for any process of post-processing or editing video footage. It is worth noting that this program is used by many well-known experts of the film industry.

Why Adobe Premiere Pro - is the best software for video editing?

Let's try to understand what qualities of Premiere Pro has gained a reputation among professional and amateur video editing? After all, the market has a large variety of other programs that are also very often used for video editing.

A very important advantage of this program is its integration with other free products from Adobe. Most professionals use a bunch of Premiere Pro + After Effects + Photoshop. This software package solves almost all problems that can confront professional television worker or a simple amateur video.

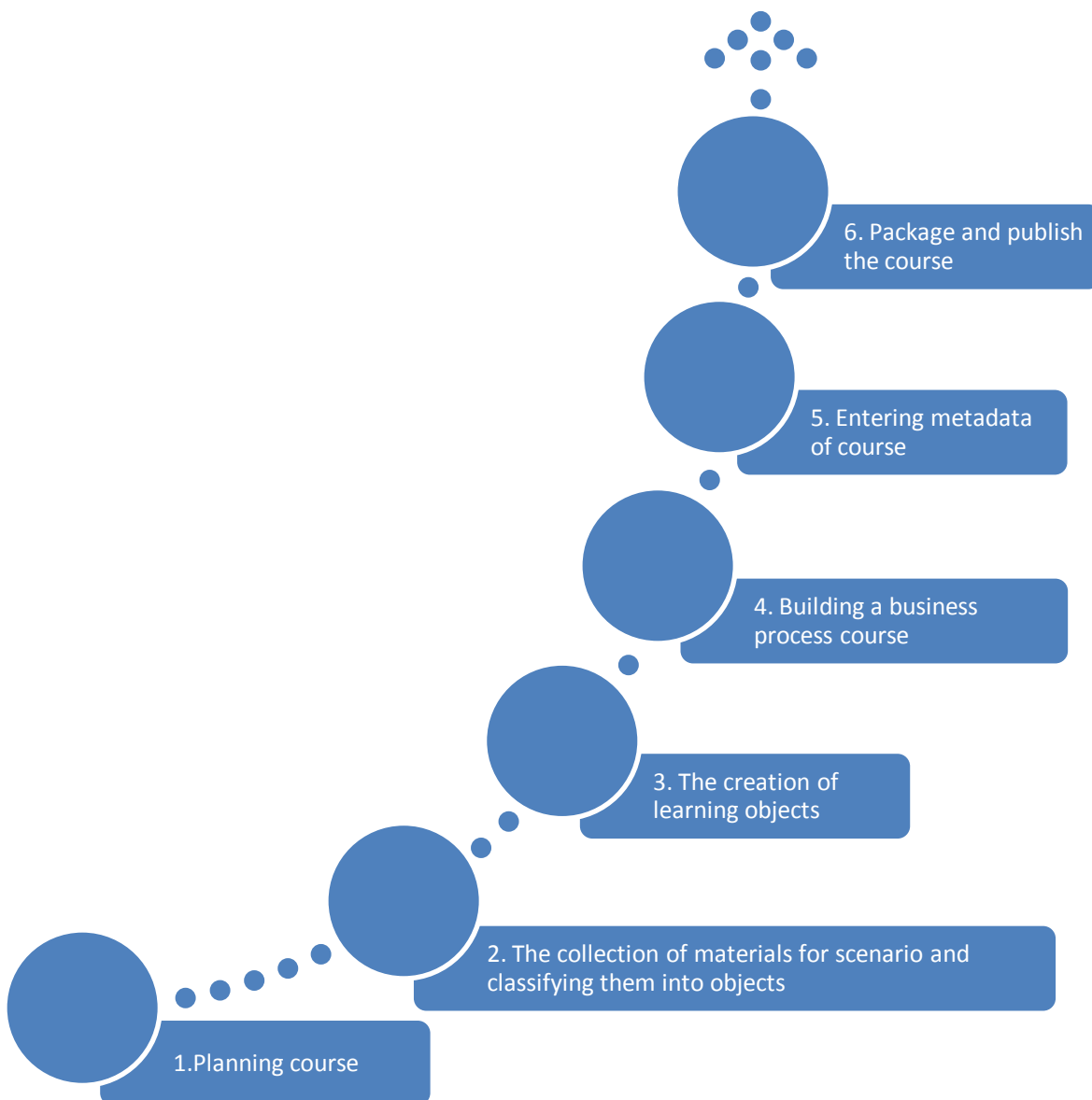
It is worth noting that many novice users racking their brains over the question: "how to start a program to learn video editing?" What is better to choose Sony Vegas Pro or still Adobe Premiere Pro? Of course, everyone has to decide for himself. .[10]

Chapter II. CREATING PRACTICAL WORK ON THE COURSE "IT IN EDUCATION" WITH USE SOFTWARE PACKAGE "ADOBE"

2.1 Stages of creation electronic educational resources for practical work based on Adobe software package

The tools provided in the public domain, and information and communication technologies allow creating e-learning resources, as ready-made e-learning courses and offline books that meet the needs of today's students.

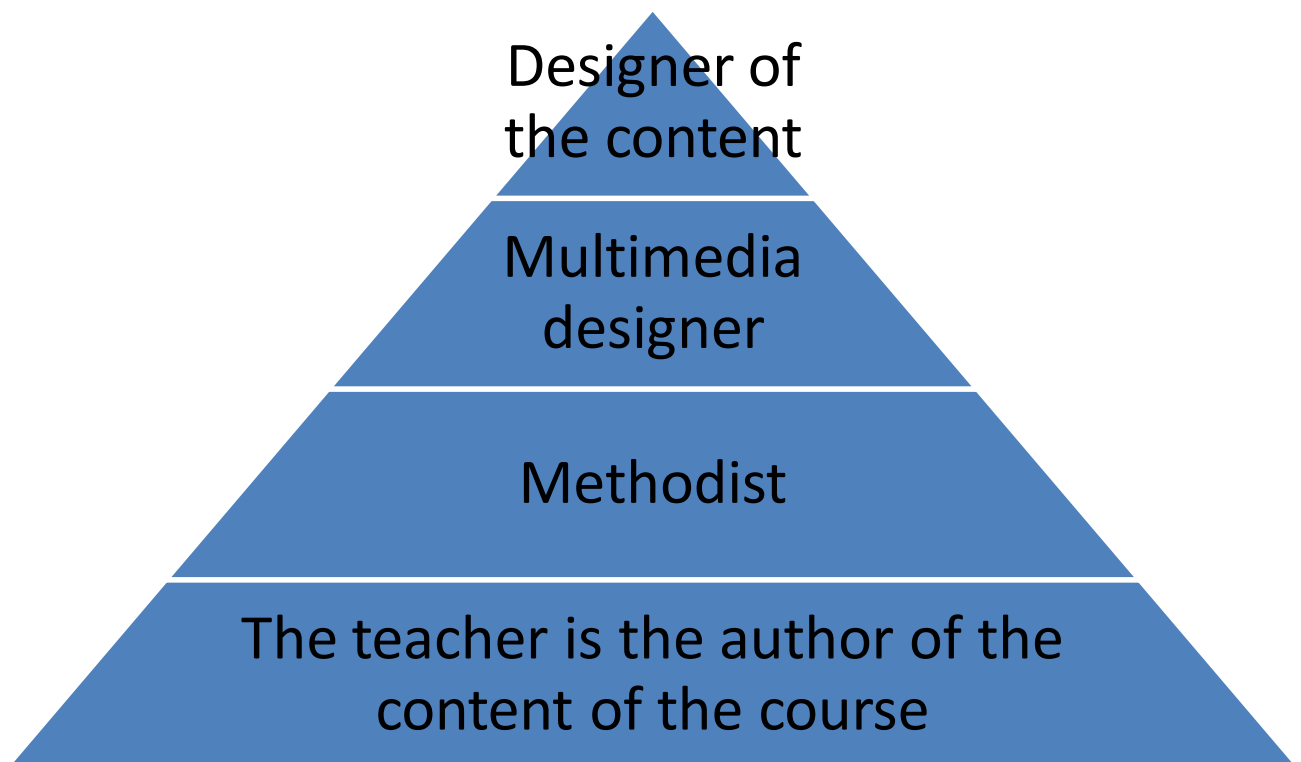
Development of electronic educational resources is a business process that contains the following stages:



Participants:

At different stages in the development of the course can participate different specialists , but at all stages the teacher retains control over the work on the course, as soon as it has a holistic view of developing the course and may prevent the distortions that occur by technical specialists.

As members of the business development process open EER, as a rule, are:



Currently, there are quite easy to learn and use tools for developing e-courses, with which teacher, basic skills to operate a personal computer, can independently develop a full EER. More complex means of creating courses require the above professionals

General description of the process of developing open e-learning course

In the beginning of the development of the course, you must determine which competencies the trainee will receive as a result of studying the course and what input skills does one need for its passage. After making these decisions you must plan for the future structure of the course, level of interactivity and to create a script of course – in this stage attended by the guidance counselor and a teacher.

Let us consider the contents of individual stages of development of an open EER.

Step 1. Planning course

The first step is to create a script of course, requires solving the following tasks:

- Identify learning objectives and acquired through learning of the course competencies
- To choose teaching strategies and methods of knowledge delivery in accordance with the purposes
- To create a sequence of learning activities
- Identify technological means of delivering knowledge.

Step 2. The collection of materials for scenario and classifying them into objects

At this stage collection of materials for the generated script of the course and splitting the collected materials to the objects. This step includes the following tasks:

- Define a set of learning objects, and the input and output competencies for each formed object
- To determine the level of interactivity of the learner and the object
- To determine the level of interactivity of the site and system training
- To determine the composition of each object, picking up a set of materials and media resources.

Step 3. The creation of learning objects

This stage involves the direct translation of teaching materials into electronic form, the addition of test and practical tasks using tools for creation of electronic courses.

Step 4. Building a business process course

The fourth stage is created course structure, designed in the planning phase, is modeled by the business process during the course. The course is formed from the

objects created in the previous step. Some modern development tools, training courses combine the 3rd and 4th stages in one.

Step 5. Entering metadata

During this phase, the entering of metadata (data about the object) of course.

The metadata may contain:

- name of the course
- level of education expected by the course
- information about the authors
- date of its creation and placement
- subject heading
- compliance with any codes.

Metadata can be used for:

- search in the repository for reuse when developing new courses
- version control object for group development
- create object for library system
- searching for courses.

Step 6. Creating rules adaptive learning

At the sixth stage there is the creation of agility. There are several models of adaptive learning:

- pretest;
- sequential learning;
- the post-test and the repetition of material;
- the choice of learning paths [10].

When creating a script, EER it is important to take into account the following: The presentation of the material for a training course must be strictly consistent. Do not deviate. Deviations from the main theme, usually used by the lecturers for "breathing space" and return attention of students in the tutorial are not working. There is no need to punctuate the blocks of serious information anecdotes. The trainee controls the flow of information - if he wants a break, he would do it himself.

Do not give too much alternatives. "Branched" structure of the course is more a minus than a plus. In this case some parallel "branches" presentation at risk to be overlooked and, as a consequence, not passed. Care "aside" from the main line of the course for example if you need to cite an example directly related to the current topic. Moreover, only in the case that this example is only an additional illustration to the material, which can be skipped without much damage. If the example is part of the learning process, it should go in the main line of course. Ideal case - when the entire course can be made by pressing a single button "Next".

One slide - one idea. The material in the EER is divided into modules and slides. And, although each slide is thematically linked with the previous slides, it is extremely desirable to "break" one thought on several slides. Use the interactive features

Plan illustrations and diagrams. Unlike a textbook, electronic course has a powerful illustrative capabilities. One scheme or animated flash-movie will help to understand much better than dozens of paragraphs of text. Well-chosen illustration can be remembered better than boring definition - and with it will be remembered, and the main idea of the slide.

Practice helps to memorize. What are "tried hands," remembered significantly better. Electronic educational courses interactive by nature - use this Arsenal. If the material allows, give students the opportunity to move elements of the schemes, to see how the result from the entered by parameters, use test questions and exercises (not necessarily appreciate).

For the development of EER I chose Adobe Captivate

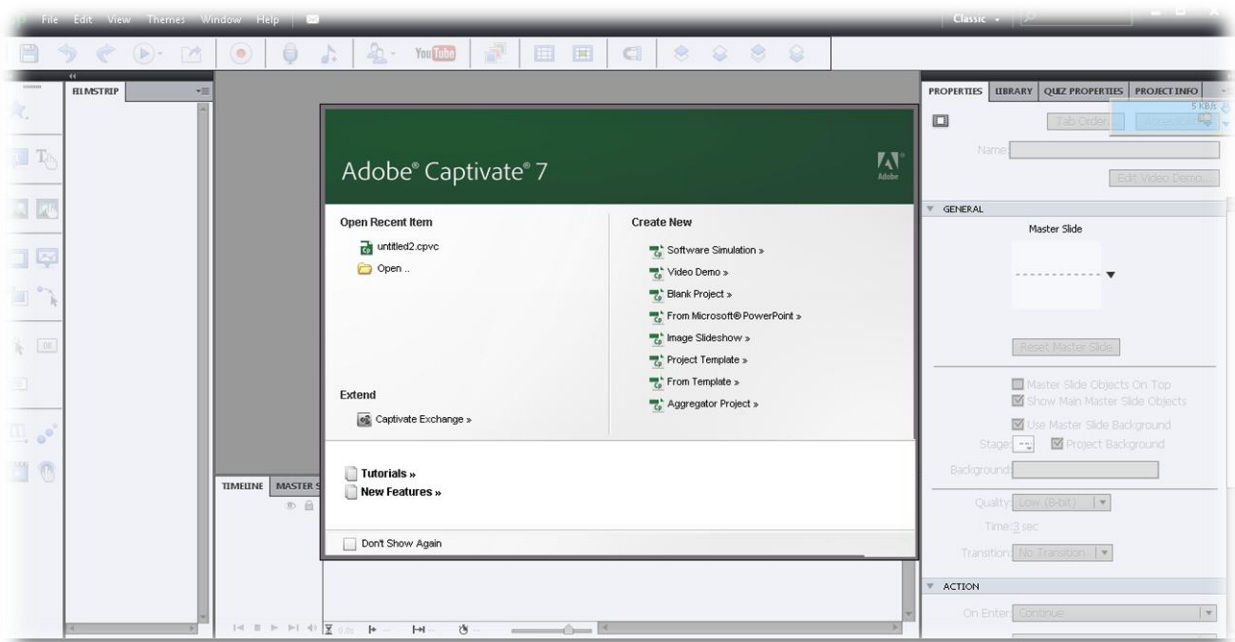


Fig. 7 Working window Captivate 7

To create a new course, select -> Blank Project -> New Blank Project **Fig. 8**

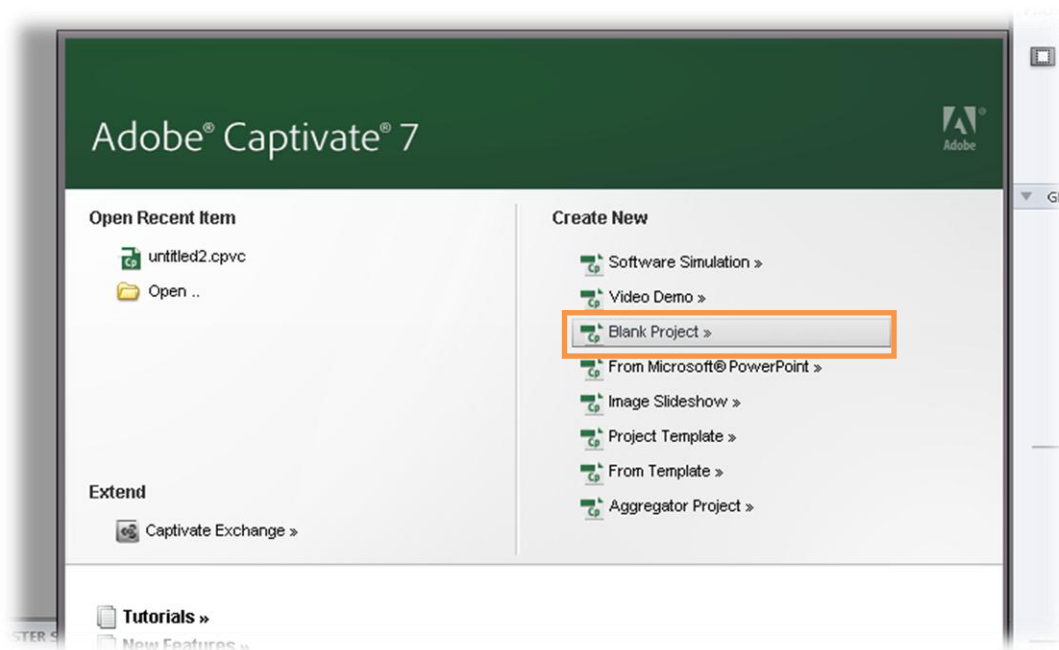


Fig. 8 Main window

Opens the wizard for creating a new course. Set the size of the window. And click "OK" **Fig. 9.**

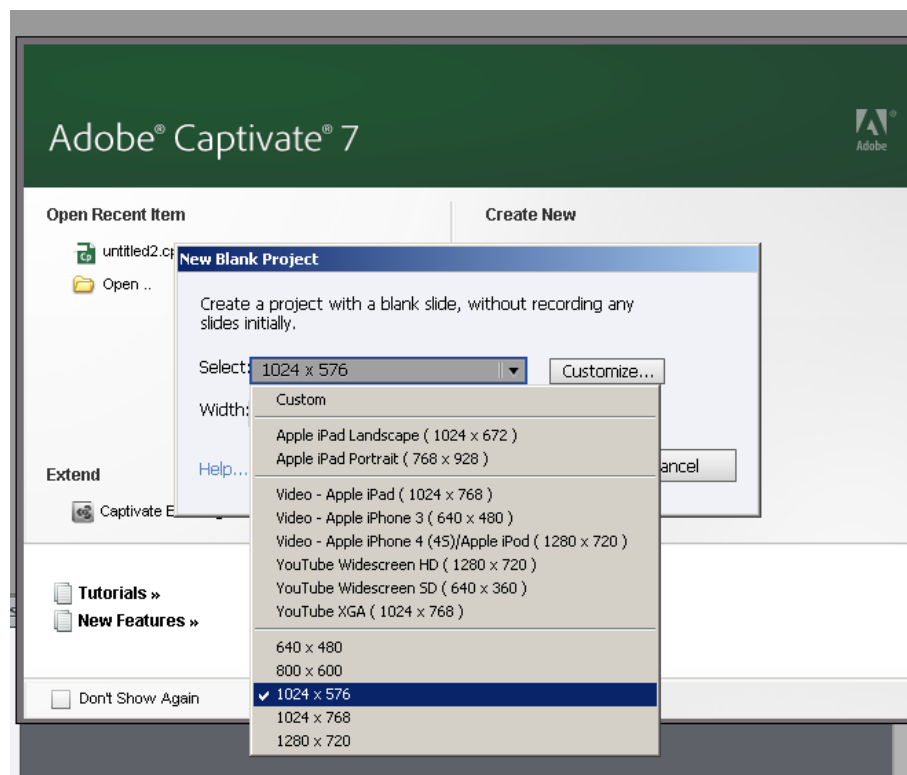


Fig. 9 Blank Project window

You can then choose one of provided templates. The default template is "White" .

Fig. 10

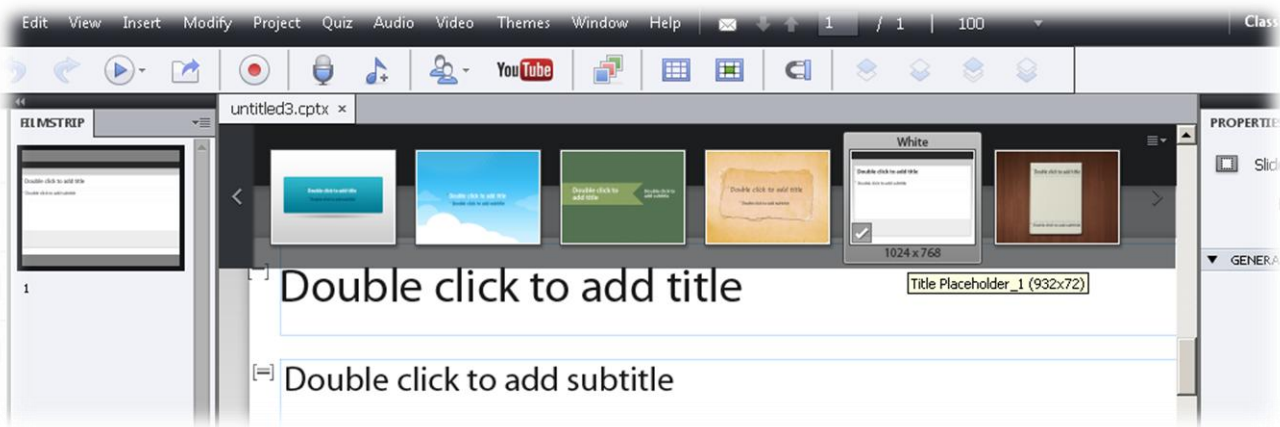


Fig. 10

After selected a template, you can edit it:

For babe go to the menu “Master Slide” located in the bottom of the window. **Fig. 11**

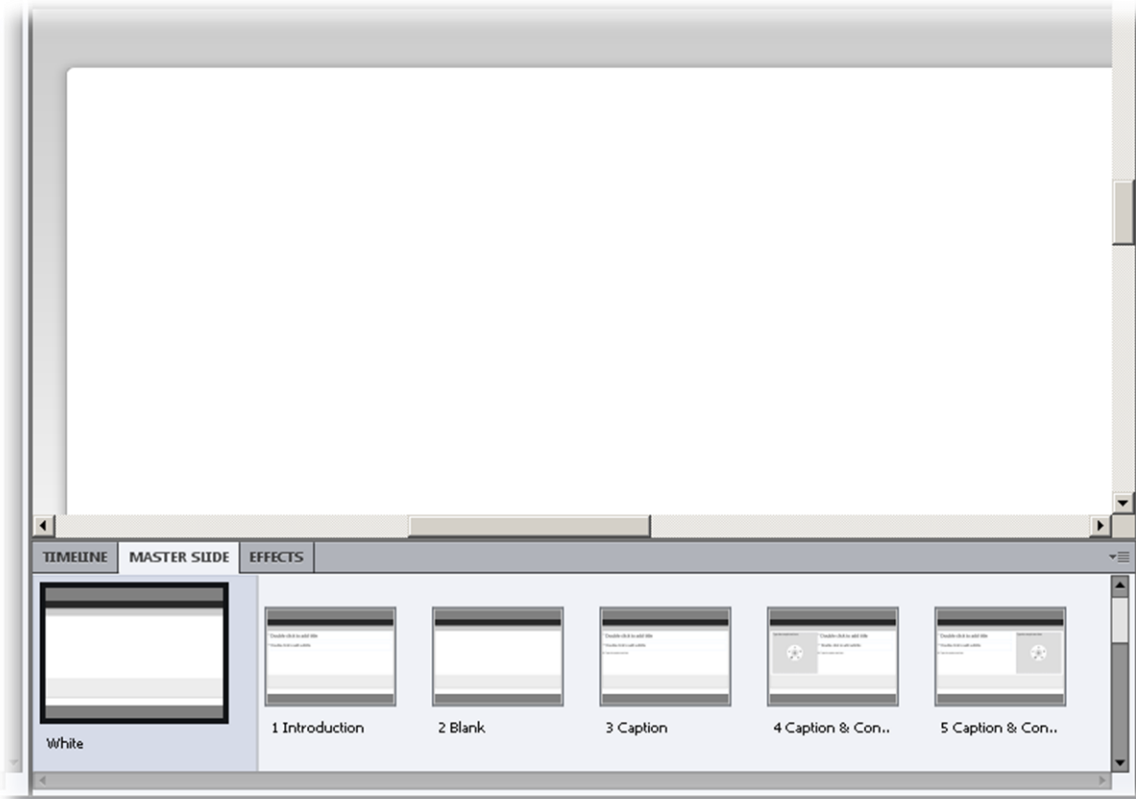


Fig. 11

In this menu you can edit the templates slides. Add multimedia content and to set the boundaries of our slide. **Fig. 12**

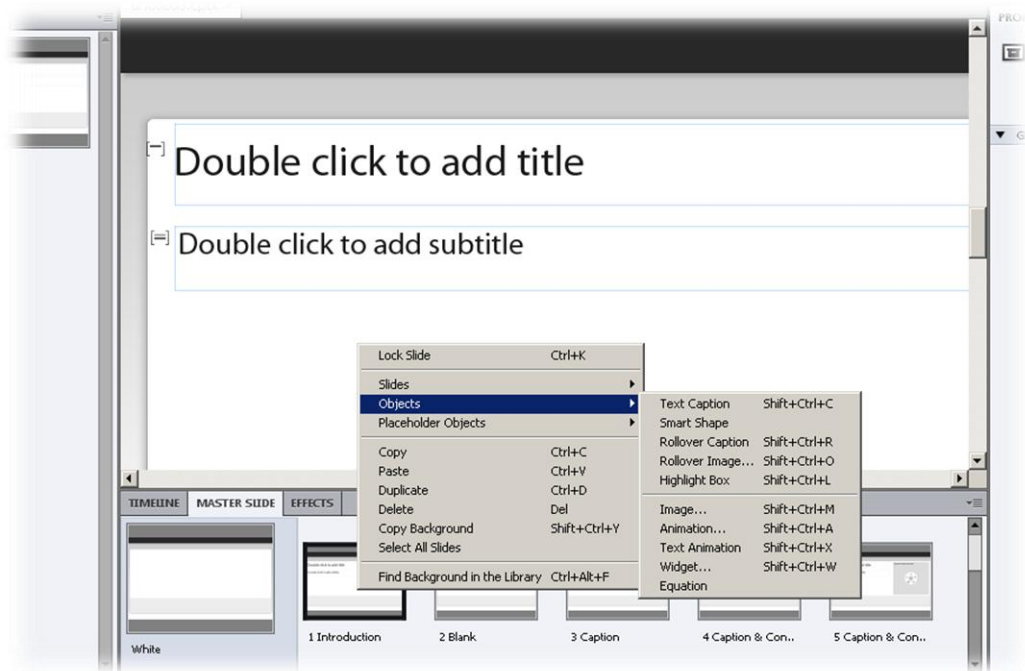


Fig. 12

Next, the prepared templates can be added via the menu “Properties ->General->Master Slide” **Fig. 13-14**

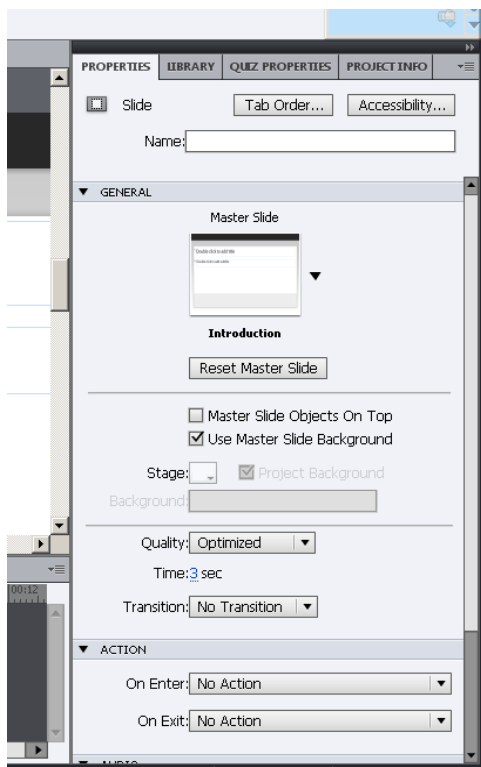


Fig. 13

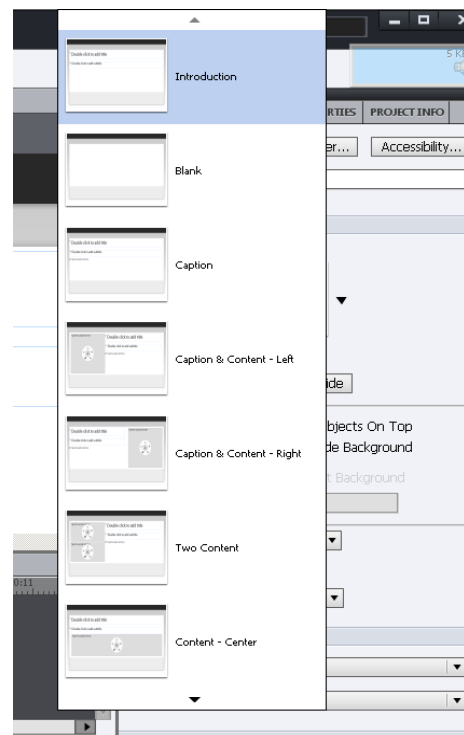


Fig. 14

To create the “Adobe Captivate” program is not necessary to go to the menu “Quiz”

Fig. 15

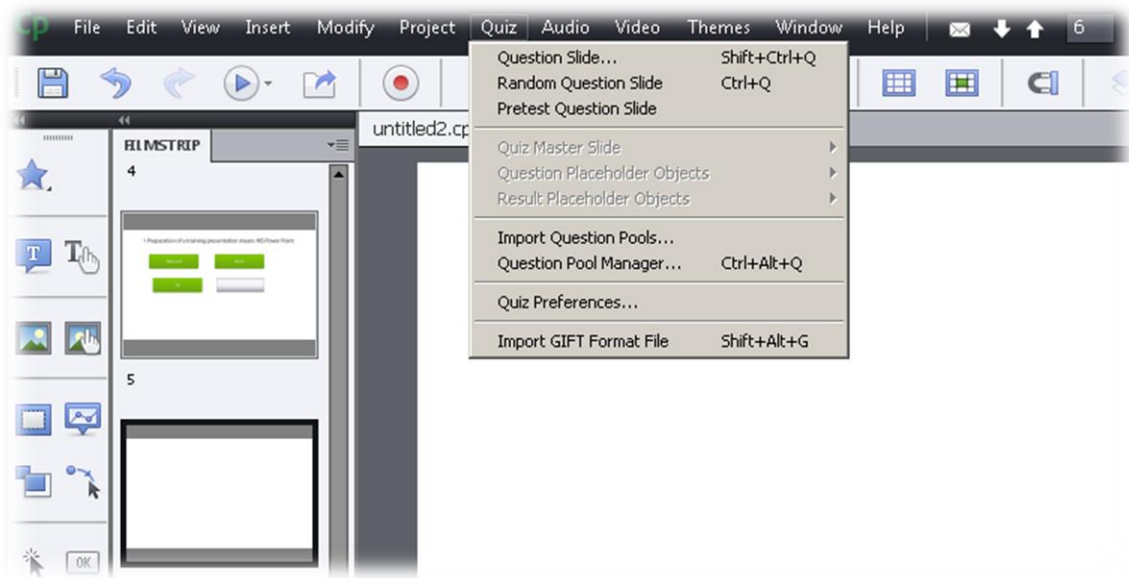


Fig. 15

Next, select the “Question Slide” and select the type and number of required tests

Fig. 16

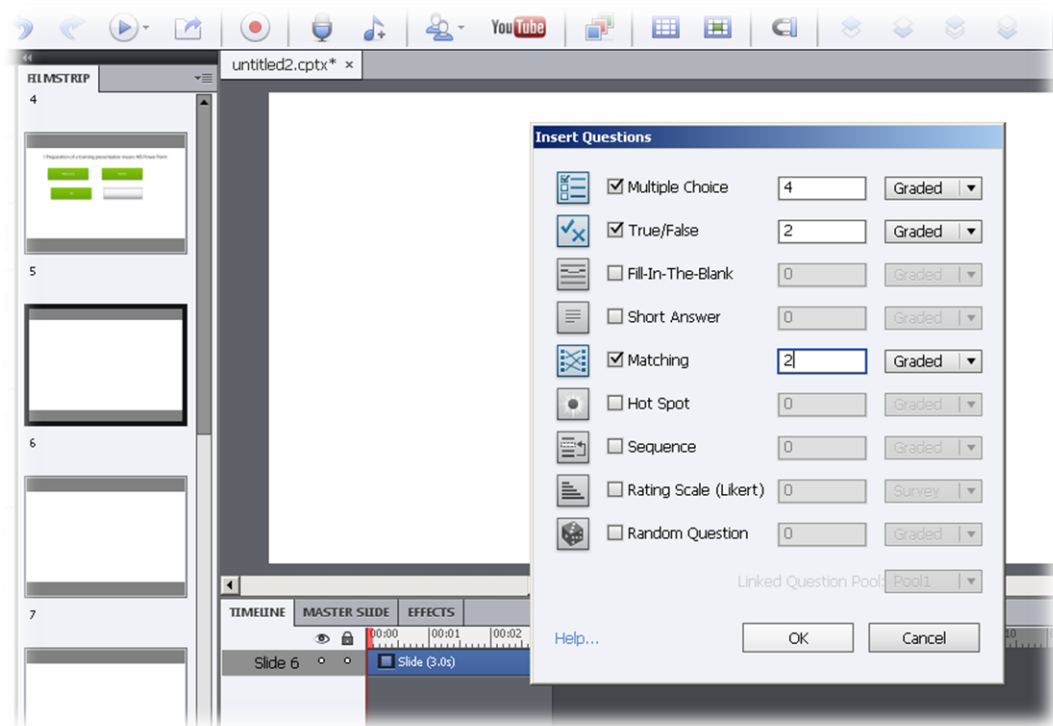


Fig. 16

Next on the “Quiz Properties” editable properties of our tests **Fig. 17**

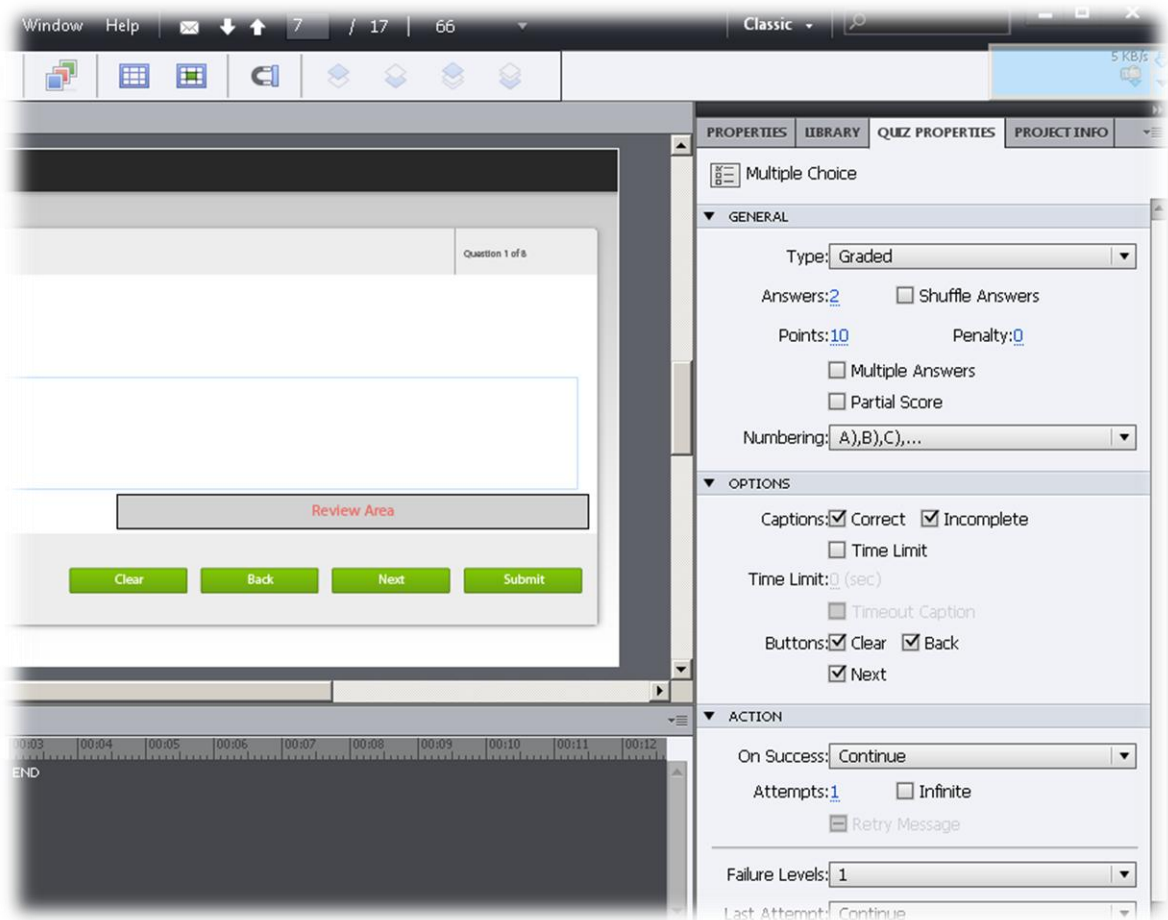


Fig. 17

To capture video from the screen go to the menu “File->Record New Software Simulation ” **Fig. 18**

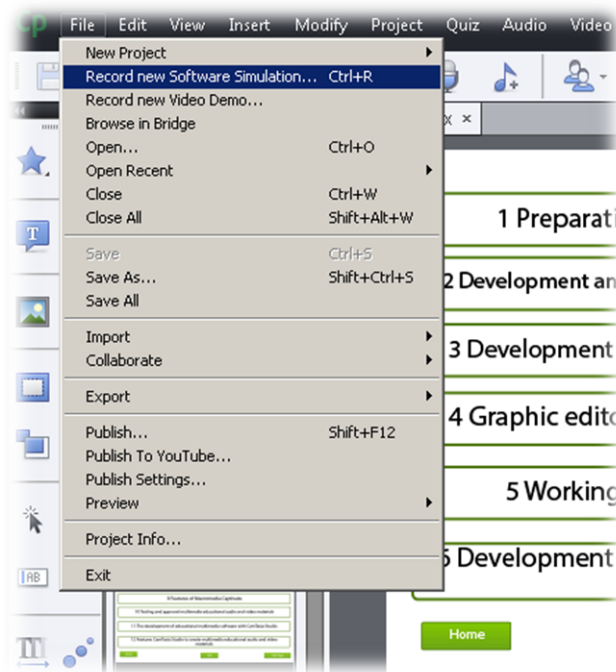


Fig. 18

Then set the window size to record and select “Record” **Fig. 19**

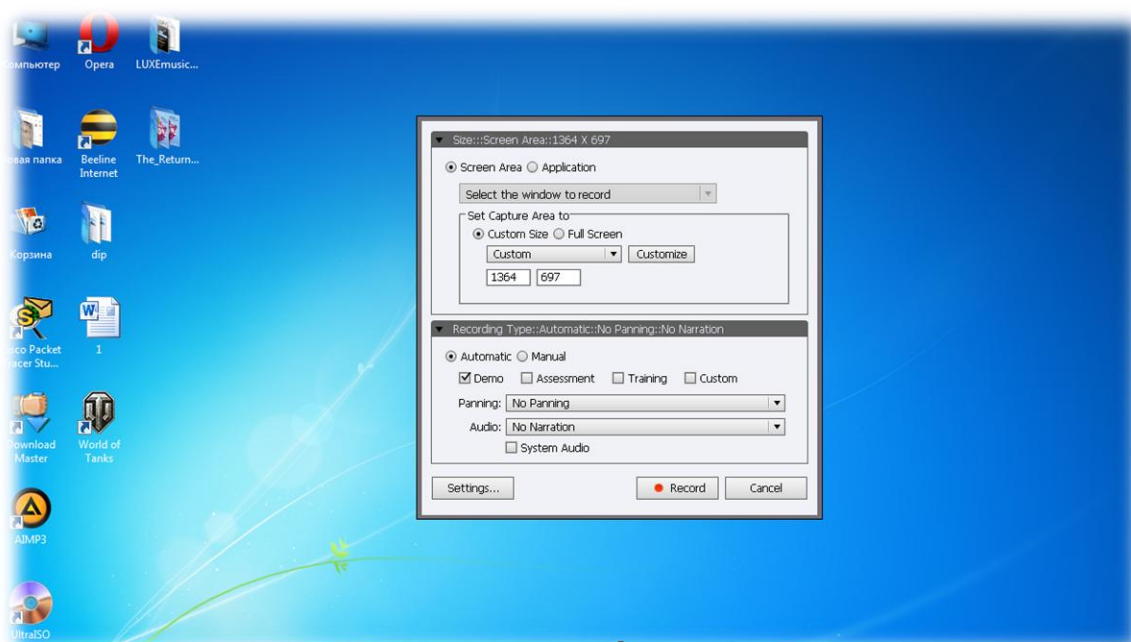


Fig. 19

2.2 Methodology for conducting practical classes on the course "IT in education" with the use of EER

The routing of the discipline "Information Technologies in education" on the topic "Preparation of a training presentation means MS Power Point

Lesson # 1;

The theme of: *"Preparation of a training presentation means MS Power Point"*

Type of the lesson: *Practical lesson;*

Objective:

to explore the possibilities of a presentation package Power Point for the integration of the different multimedia objects applying them in the educational process.

Objectives:

- training: to promote the formation of knowledge and skills to work in the editor, Power Point;
- build knowledge and skills in applied Informatics;
- to form practical skills of students when working with studied information technology.

Developing:

- education of interest, creative activity of students to use information modeling in life.
- to inculcate interest in the subject;
- to impart skills of collective work;
- to foster tolerance and discipline.

Educational: to promote labor education of pupils, curiosity, discipline;

Lesson duration: 80 minutes.

Hardware and software: a computer lab with personal computer for each student, local network, operating system WindowsXP, MS Office 2007.

Planned educational results:

Subject:

to create on a given topic multimedia presentation with hyperlinks, slides which contain text, sound, graphics.

Meta-subject:

composing text-based test tasks necessary to generalize the studied material on different objects.

Personal:

clearly the formation of creative thinking.

Methods of monitoring the effectiveness of the learning activities: Tests

The stages of training				
Activities				
Tasks of the stage	Time	Activity of the teacher	Activities of students	Expected result
1.The organization started classes	5	Students welcome, roll call	To meet the teacher	Welcome teachers, are included in the business rhythm.
2 For the teacher: Actualization of knowledge and the announcement topic For student: Primary self-assessment	10	Organizes work. Tells the advantages of the presentation and Power Point software	The students, discussing the subject, come to the conclusion that presentation clips is the most convenient and beautiful way to provide information . Accordingly, they will have to create a presentation for the neighbor.	Prepare the working place
3 With the position of teacher: Repeat the learned material and providing new material For student: Working with academic text	25	Providing multimedia information material to students (gives student EER in CD or other electronic media)	Analyze the lesson and choose the necessary information to create a presentation in PowerPoint (EER run and choose the necessary theme)	Get information
4 With the position of teacher: The new study, the formation of new skills For student: The job with self-test	15	Gives themes, of which you need to make a presentation. Organizes the interview for verification the correctness of the instructions	Get themes, of which you need to make a presentation. In carrying out the task, design an algorithm for compiling the presentation. Execute (create presentations individually on a PC.	Based on the individual interests of the student to be motivated to create your presentation

<p>5 With the position of teacher: Consolidation, classification, application For student: Peer assessment</p>	<p>10</p>	<p>Students are encouraged to perform test tasks using the execution mode of the test EER</p>	<p>Perform test tasks using the execution mode of the test EER</p>	<p>It will consolidate the knowledge gained in the lesson</p>
<p>6 the Choice of homework</p>	<p>5</p>	<p>Students are encouraged to choose a topic and make a presentation of at least 10 slides. (gives students EER in electronic media for repetition at home of course)</p>	<p>Make a presentation on any other topic, not less than 10 slides (EER take in an electronic medium for repetition of the course at home)</p>	<p>It will consolidate the knowledge gained in the lesson</p>
<p>7 From the perspective of the teacher: Summary of lesson evaluation of students work For student: Re self-esteem</p>	<p>10</p>	<p>Analysis of the lesson: it was possible to achieve the goal? completed tasks? what difficulties arose? were you able to overcome them? why didn't it work</p>	<p>Students fill out a questionnaire</p>	<p>Will reveal the overall result of the lesson</p>

2.3 Examples of use of the electronic educational resources for teaching the course "IT in education"

The method of application of the EER to conduct the learning process of practical works. The technique of carrying out lessons with the use of the EER can be different, but most often are used the following options for the design of these lessons:

Option 1. EER is used when learning new material and its consolidation (20 minutes of work at the computer). Students are interviewed first by the traditional method or by using printed tests. During the transition to learning new material students sit in pairs at the computer, turn it on and start working on the structural formula and structural units of the paragraph under the direction and plan of the master;

Option 2. EER can be used at the stage of consolidation of the material. In this lesson the new material is studied in the usual way, and when you pin all the students 5-7 minutes under the guidance of a teacher correlate the values obtained with the formula of paragraph;

Option 3. In a combined lesson with the help of EER is the repetition and generalization of the material studied (15-17 minutes). This option is preferable for the lessons repetition of the final, when in the course of the lesson is required to "scroll" the contents of several paragraphs, to identify the ancestry of the concept, to repeat the most important facts and events to determine cause-and-effect relationships. In this lesson, students should be able to work together at first (during the teacher's explanations), then in pairs (according to the instructions of the teacher) finally, individually (in turn);

Option 4. Private lessons can be devoted to independent study of the new material and the compilation according to the results of their structural formulas of the paragraph. This work is conducted in groups of students (3-4 persons). In closing the lesson (10 minutes) students turn to electronic formula of the paragraph,

comparing it with its own version. Thus the introduction of students to research work in the classroom, starting in primary school age .

The composition of EER may include a monitoring system. The students ' test results in each subject are recorded and processed by the computer. Monitoring data can be used by the student, teacher, methodical services and administration. The percentage of correctly solved problems gives the student a view of how he learned the training material, thus he can see what unit they learned not fully, and subsequently to Refine this material. Thus, the pupil to some extent can independently control the learning process.

The teacher, in turn, on the basis of information received also has the ability to control the learning process. The results of class content in General allow the teacher to see the necessity of repetition on a particular structural unit to achieve the maximum level of training. Considering the results of individual students in the structural units, it is possible to make similar conclusions for each individual student and make appropriate methodological decisions in terms of individual work. It is possible to trace the dynamics of student learning on the subject. Consistently high results some students give the teacher the opportunity to build individual trajectory of the subject.

Methodical associations and teachers of the departments most interesting results of monitoring of content. They receive full information about the absorption of each unit students whole grade. Based on such data reveals the material which has caused difficulties for the students, allowing for faculty meetings and within creative groups to develop guidelines to overcome these difficulties. The administration of the school the system of pedagogical monitoring allows to track the level of students ' knowledge on the subjects, see his dynamics, to strengthen the methodological work of teachers on specific problems of educational content, to control the optimality of the curriculum and on the basis of data of pedagogical monitoring to carry out its adjustment.

Chapter 3. LIFE SAFETY OF ACTIVITY

3.1. Microclimate

The microclimate is the variations in localized climate around a building. The microclimate has a very important impact on both the energy and environmental performance of a building. An idea site for the designing an energy efficient home would be one that has fuller solar access and protection from the harsh elements of nature.

What affects a building's microclimate?

- Orientation of building
- Location of neighboring objects
- Surrounding landscape

The microclimate can also determine the shape of the building and how it sits on the site and the location of your rooms with in the building. The zoning and orientation of the building can have a strong impact on the energy consumption pattern.

Why shape is important in low energy building design?

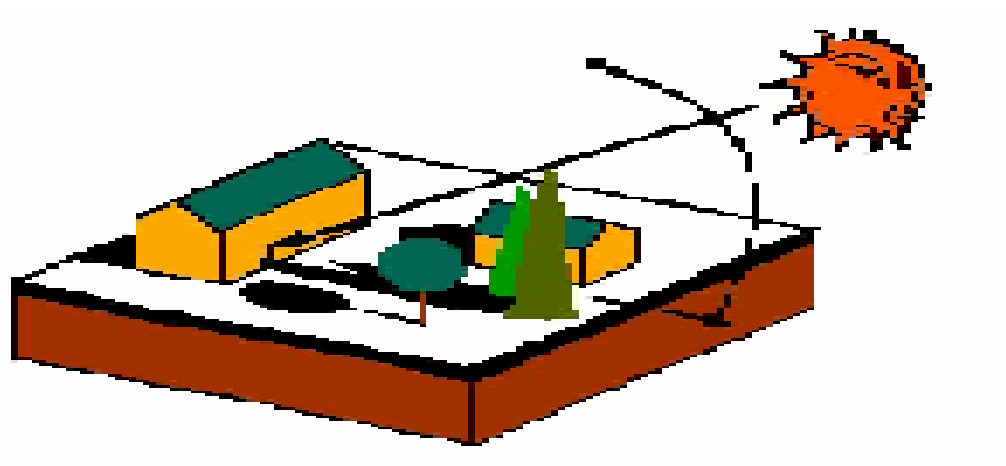


Fig. 20 *Shape of building against sun*

Shape can have a strong influence on energy consumption performances.

- Solargain
- Saving sun energy consumption
- Integration of technology

- Pressure Distribution
- Wind patterns

For instance, it can determine the amount of solar radiation falling onto the external surface area. This in return can increase savings on energy, for example, heating and lighting. The form of the building should take into account the integration of technology, to maximize efficiency. Other affected factors are pressure distribution throughout the building and wind patterns etc. We have opted for a quarter of a sphere shape because it has less surface area than a cuboid of the same volume, hence there will be less heat loss by conduction through walls and roof. The curved south facing facade compliments the sun's path allowing a variety of optimum angles as the sun rises and sets. This allows us to integrate the solar technology onto the building structure.

The zoning of the rooms are located so that most rooms have an advantage of the south facing facade. This allows most rooms to be heated by solar energy and lit naturally during hours of sunlight. The zoning relates to a typical occupancy pattern and sun's position at different times of the day. This allows in coordination with appropriate time lags for us to utilize solar radiation when needed.

Studying microclimate requires a dense network of organizations sporadic weather observations and comparing these observations with the testimony of a permanent, supporting meteorological station, which characterizes the respective local climate. Widely practiced microclimate shooting cars. Features AM to consider when placing agricultural cultures and promoting them to new areas, conducting various reclamation of land in the industrial and civil construction, etc.

A necessary prerequisite for effective and productive human activity is the provision of normal weather conditions, microclimate.

Under favorable combination of microclimate person experiences a state of thermal comfort, which is an important condition for high productivity and preventing disease.

Under the working environment is understood climate limited area of space with the meteorological parameters of the atmosphere where the person carries out a professional career.

The peculiarity of the working environment is that it is formed under the influence of climate areas, i.e. outer atmosphere, or under the influence of purposeful changes in these parameters (heating, ventilation). In some cases, the impact of these factors significantly alters the physical properties of the ambient air, creating a specific weather conditions in the workplace, which is particularly acute in enclosed spaces.

In this regard, the following types of microclimate:

- ❖ Monotone (its parameters change little during the shift (weaving, sewing shops, shoe manufacturing, mechanical engineering, etc.);
- ❖ Dynamic (rapid and significant change of microclimate (steelworks, foundries, etc.).

The vast majority of employees do their work at various combinations of meteorological elements that make up the climate: high (or low) temperatures of air, alternating with normal, high or low humidity, with considerable intensity of infrared radiation (or, conversely, with radiative cooling) with large or low mobility of air. In addition, a significant number of workers are employed in outdoor work (construction, geology, agriculture, etc.), in unheated areas (construction, manufacturing of large-sized products in engineering, storage, elevators, etc.), freezers (food and food processing industry). All of these possible combinations of microclimate parameters have different effects on the heat exchange and thermal state of man, his state of health, performance and health, and can be roughly summarized in three types:

- ❖ comfortable (neutral);
- ❖ heating;
- ❖ cooling.

The influence of climate on the human body - Microclimate has a significant effect on the human body. All the vital processes in the body provide energy for

motor activity, a minority of which is spent to perform useful work, and most of the energy is converted into heat. This continuous heat release to the environment a quantity which varies from 85 (at rest) to 500 W (hard physical work) provides normal physiological processes. A prerequisite of life is full of human abduction by body heat (heat production) in the environment or the protection of the human body from excessive heat emission into the environment.

Violation of the heat balance leads to overheating or overcooling and, further, to a violation of the functional state of the employee, and reduce disability, occurrence of accidents and injuries. Finally, in case of overheating, possible loss of consciousness and death, with colds is freezing. Less pronounced deviations combinations of microclimate, providing a comfortable state of man, help to extend temporary disability, the emergence of occupational diseases.

Under optimal microclimatic conditions provided general and local thermal comfort sensation during the 8-hour shift at the minimum voltage mechanisms of thermoregulation. These conditions do not cause variations in health status, create the preconditions for a high level of performance and are preferred in the workplace. The optimal values of microclimate parameters have to be respected in the workplace, where the work carrier of a type associated with nervous voltage (in the cabins, on panels and process control stations, in the halls of computer equipment, etc.) when working on a PC, etc.

The optimal parameters of the microclimate in the workplace must comply with the values given in Table 1, with respect to the performance of works of various categories in the cold and warm periods of the year.

Air temperature drops vertically and horizontally, as well as changes in air temperature during the shift, while ensuring optimal values of microclimate in the workplace should not exceed 2 ° C and higher than the values shown in Table 1 for certain categories of works.

Allowable microclimate conditions set by criteria The thermal and functional condition of the period of the 8-hour work shift (40 hours per week).

They do not cause violations of health, but can lead to general and local thermal sensations of discomfort, stress mechanisms of thermoregulation, poor health and a decrease in performance. Allowable values of parameters are set in a microclimate where on technology requirements, technical and economically justified reasons can't be provided the best value.

Allowable climate indicators in the workplace should be as given in Table 2 in relation to the performance of works of different categories of severity of the cold and warm periods of the year.

In the presence of thermal radiation operating temperature of the air at the workplace must not exceed regardless of the category of works of the following values:

- ✓ 25 ° C - for the work category;
- ✓ 24 ° C - in the category of works;
- ✓ 22 ° C - with job category;
- ✓ 21 ° C - in the category of works;
- ✓ 20 ° - with job category.

In production facilities, which allowed characteristic values of microclimate parameters can't be set due to the technological requirements of the production process or economically feasible inexpedient, microclimate conditions should be considered as harmful and dangerous. In order to prevent the adverse effects of climate should be held protective measures (eg, installation of the system of local air-conditioning, air-Spraying, compensation for the adverse effects of climate change in a parameter of another, the issuance of clothing and other personal protective equipment, isolation facilities for recreation and heating).

Temperature of the external surfaces of the process equipment, protecting the devices that come into contact in the course of the performer, not to exceed 45 ° C.

3.2. Fire safety

Fire safety is the state of security of the person, property, society and the state from wildfires. Fire safety is one of the most important functions of the state. The elements of fire safety systems (SOPB) are public authorities, local governments,

organizations, peasant (farmer's) economy and other legal entities, irrespective of their organizational-legal forms of ownership, and citizens involved in ensuring fire safety in accordance with the legislation of the Republic of Uzbekistan. Those responsible for violations of fire safety, and other citizens for violation of fire safety as well as for other offenses in the field of fire safety may be subject to disciplinary, administrative or criminal liability under applicable law. Fire - uncontrolled burning, causing property damage, damage to life and health of citizens and the interests of society and the state. Fire safety object - the object's state, characterized by the ability to prevent the emergence and development of a fire, as well as the impact on the lives and property of fire hazards. Fire safety should be ensured facility fire prevention systems and fire protection systems, including organizational and technical measures.

The fire mode is the rules of human behavior, organization of production, the order of detention premises and territories to ensure prevention of violations of fire safety and firefighting. Fire-fighting measures - actions to ensure fire safety, including the implementation of fire safety. General requirements for fire prevention Fire is impossible under any circumstances, if an ignition source is eliminated contact with combustible material. If a potential source of ignition and combustible environment cannot be completely excluded from the process, then the equipment or the room, in which it is located, must be protected by automatic means:

- Emergency shutdown equipment.
- Various alarm.

Flame most often affects exposed areas of the body. Very dangerous burns produced from the burning of clothes, which is difficult to put out and reset. Particularly easy to ignite clothing made from synthetic fabrics. Temperature threshold of viability of human tissue is 45 ° C.

Higher ambient temperatures leads to disruption of the thermal regime of the human body, causing overheating, deterioration of health due to intensive breeding essential body salts, respiratory arrhythmia, the heart and blood vessels. Avoid long-term exposure infrared intensity of about 540 W / m.

Stage of a fire in the room, the first 10-20 minutes the fire spread linearly along the combustible material. At this time, a smoke filled room, consider the time the flame is impossible. The air temperature in the room rises to 250-300 degrees. This basic ignition temperature of combustible material.

- After 20 minutes, the volume begins the spread of fire.
- After another 10 minutes of coming destruction of the glass.
- Increased supply of fresh air is progressing rapidly developing fire. The temperature reaches 900 degrees.
- Phase burnout. Within 10 minutes, the maximum rate of fire.
- After burn basic substances, the stabilization phase fire occurs (from 20 minutes to 5 hours). If the fire cannot spread to other buildings, the fire goes out.
- At this time the collapse of the burned-out structures.

Countermeasures' fire is divided into: reducing the risk of fire (prevention) protection and rescue of people from the fire. Preventing the spread of fire is achieved by measures that restrict the size, intensity, and duration of combustion. They are:

- design and space-planning solutions that prevent the spread of fire hazards around the room, between rooms, spaces between groups of different functional fire hazard, between floors and sections between fire compartments, and between buildings;
- limiting the fire hazard of building materials used in the surface layers of the structures of the building, including roofing, cladding facades and finishes, facilities and evacuation routes;
- reduction of the technological explosion of fire and fire risk areas and buildings;
- the availability of primary, including automatic and imported fire extinguishers, alarm and fire warning.

The protective action of protection directly from the fire can be divided to protect people from the heat and the often more dangerous toxic substances released into the air during a fire. Use a thermal insulating clothing BOP (fire fighter),

insulating masks and devices on compressed air, the air filter hoods on the type of gas masks.

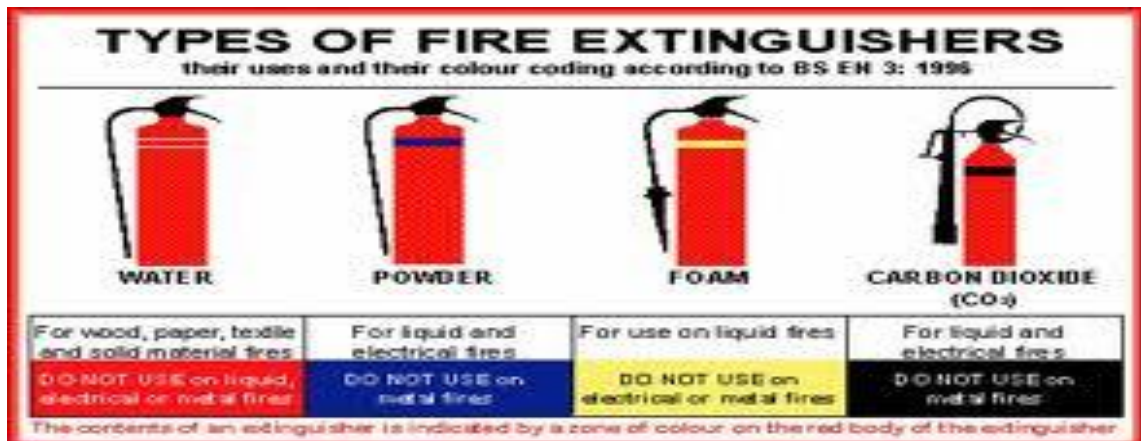


Fig. 21 *Types of fire extinguishers*

3.3 Ecological monitoring

Quality information on ecosystem rank and trends is vigorous to uphold a healthy, maintainable environment and economy.

Ecological monitoring spawns the information necessary to measure and respond to ecosystem deviations. Monitoring can support with the documentation of new environmental worries, the ordering of issues, and the assessment of trends over time.

This information can be used to mature appropriate strategies to alleviate, adapt and reply to environmental burdens and to modify programs and policies to see environmental challenges. Long-term, multidisciplinary exploration and monitoring delivers decision-makers with chiefly valuable information.

From 1994 to 2010, the Ecological Monitoring and Assessment Network (EMAN) was recognized as a national network of establishments complicated in ecological monitoring in Canada to better notice, describe, and bang on ecosystem deviations. The network was made up of government and nongovernment organizations, academic institutions, native organizations and public groups. EMAN

CO, in corporation with Nature Canada and Provincial and Territorial Coordinators, initiated NatureWatch, a national citizen science monitoring program.

The Network was managed by the EMAN Coordinating Office of Environment Canada. Key products of the EMAN network were:

Ecological Monitoring Protocols

Working with its associates - formerly under the Ecological Monitoring and Assessment Network- Environment Canada sanctions standard protocols and matures them in areas where either alliance is required, or no work has been done. The expansion of protocols is done through discussion with scientists, researchers, and experts.

Monitoring protocols permit for standardization in study strategy, sampling procedures, taster and data analysis, and reportage methods. This safeguards that information gathered in Canada is useful for problems analysis and ecological accepting at the local, national and international scale.

PROGRAMME OF THE ECOLOGICAL MOVEMENT OF UZBEKISTAN

Since independence, Uzbekistan has reliably been applying a strategy for large-scale productive socio-political and socio-economic transformations meant at achieving: peace in the country, affluence in the homeland, well-being of the people.

The socially oriented market economy, state and public building system of independent Uzbekistan are evolving with dynamism. Successive application of socio-economic reforms, solid social policy has resulted in a balanced growth in actual incomes and wealth of the population. Systems of education and preparation, personnel teaching, health protection, and culture that are unique in constituent and content have been twisted. A new age band of people, independently and modernly thoughtful personnel of new foundation who are brought up on national and panhuman standards and able to really contrivance large-scale tasks for transformation of the country and production of modern democratic society, people

with a profound sense of their obligation for the present and future of the country, responsibility for destiny of their native country are inflowing into life.

Thereupon nowadays founding of Ecological Movement of Uzbekistan has become an adamant demand of time. The Ecological Movement purposes to unite population of the country who maintenance ideas and want to dynamically contribute in environmental and community health protection, and are influenced that an environmentally directed attitude to carrying out of political, economic and social modifications is the most actual way for maintainable development in Uzbekistan.

The Ecological Movement pursues to mobilize all services of society for further extending of modifications carried out in the country, which are meant at implementation and harsh observance of the rights of present and future generations of population in Uzbekistan to living in a encouraging environment, development of public health, defense and rational use of all the compound of natural resources. Considering “Healthy Environment – Healthy Human” as its main dictum, the Ecological Movement sets the following program responsibilities for its implementation.

I. All-round rise of public contribution activity in environmental protection and improvement.

The most consideration of the Ecological Movement will be absorbed on that environmental protection would develop a business of every citizen of the country.

II. Carrying out of complete work to confirm implementation of already accepted laws and other national documents on environmental protection, and support to further excellence and advance of the legislation in this field.

The dominant duty of the Ecological Movement will be to deliver broad public succor and provision for work of state forms, environmental organizations, all initiatives and institutions on enactment of laws in force and extra government decisions regarding environmental protection, development of water and air, land and biological resources and their fortification from harmful inspiration of waste, and public health care.

At the same time, the Ecological Movement will recruit adoption of new legal acts by legislative and executive authorities, change of laws in force and other regulatory legal acts in order to progress legal regulation of solving the existing ecological and environmental evils, further expansion of the environmental legislation and legislation regarding public health conferring to the generally putative rules of international law and the international agreements with the Republic of Uzbekistan.

III. Rising of the responsibility of chief and local authorities, civic and other structures for performing adopted official papers on environmental protection and confirming rational use of incomes owed to these resolutions

The Ecological Movement will support in every potential way to raise the responsibility of central and local authorities, different public and other organizations for unconditional enactment of laws and supplementary governmental decisions regarding environmental protection, rational use of usual resources and resources directed to these aims. To this end, it will advance cooperation with followers of the Senate of the Oliy Majlis (upper chamber of Parliament) and deputies of the Legislative Chamber of the Oliy Majlis (lower chamber of Parliament) of the Republic of Uzbekistan, deputies of local Kengashs (Councils), self-government civil institutions, public organizations, other civil society institutions and the mass media. At that, exceptional attention will be focused on floating the responsibility of officials of central and local authorities, readiness, organizations and institutions for obedience with laws and other government resolutions:

- on protected natural zones and entities, environmental certification and capability, on waste administration and on environmental supplies in production activities;

- on water and water use, on land, on mineral resources, on atmospheric air protection, on protection and use of forests, flora and fauna;

The Ecological Movement will also effort its efforts on execution of systematic public environmental monitoring over completing of priority environmental

speculation projects at local level, well-timed and complete distribution and rational use of funds apportioned from the State budget to these purposes, and direct foreign investment and credits, sponsor funds.

IV. Raising of ecological culture of the population, development of the system for ecological education and training.

The Ecological Movement of Uzbekistan trusts that solving of environmental evils being gradually global today goes elsewhere overview of resource-saving and environmentally fitting technologies in economic activities, employment of environmental protection movements and perfection of the legislation in this arena. Today events to raise ecological culture of the population, form a sense of civil liability of everybody for a solicitous boldness to the environment, marmalade the unique nature of the country for future generations are increasingly becoming a key factor for environmental advance and prevention of negative techno genic and anthropogenic influence on the environment.

To increase environmental awareness of the population, the Ecological Movement means to take an dynamic part in the application of governmental programs directed at:

- growth and implementation of a program for unceasing ecological education and education for supportable development;
- creation of an actual system for advanced training of authorities in ecology as well as rising ecological education of CEOs and experts in various spheres of production, economy and administration, law-enforcement and judicial bodies.

To solve challenges to raise ecological culture of the population, the Ecological Movement considers it is important to appeal to cultural heritage of the people that always aspired to establish harmonious mutual relations between human and nature, and conserve it for future generations, as well as to centuries-old national traditions and values of careful attitude to water. The Ecological Movement sets its important

program task to popularize environmental outlook, rational approach and careful attitude to the environment, in any spheres of life of society, and will fulfill this task in close cooperation with other civil society institutions.

The Ecological Movement intends to provide broad public support for promotion of scientific studies in environmental protection, advancement of resource-saving, energy-efficient and environmentally appropriate technologies, and considers that funds invested today in education and science constitute a capital that provides a strong base for forming in the country high-intellectual society with high ecological culture, to which the future belongs.

V. Promotion of international cooperation in environmental protection

Keeping in mind that environmental protection has no borders, the Ecological Movement will consistently develop and strengthen communications with international and foreign environmental public organizations. Attaching great significance to that Uzbekistan has joined key environmental documents of international law such as the UN Conventions to combat desertification, on biodiversity, on climate change, on transboundary water use, etc., the Ecological Movement will seek to contribute to further promotion of effective international cooperation for environmental protection and sustainable development.

For these purposes, the Ecological Movement will provide active public support and assistance for:

- effective participation of representatives from Uzbekistan in international environmental forums;
- improvement of practice for holding bilateral and multilateral international conferences, workshops and meetings on environmental problems.

Considering that ensuring environmental security in Central Asia has not only a direct bearing on life and destiny of peoples living here, but is also of global significance, and solving such problems as the Aral Sea desiccation, climate change,

land degradation, water shortage and pollution, biodiversity reduction, and trans boundary pollution transport goes beyond the interests of the states taken separately and dictates necessity to solve them together, the Ecological Movement supports in every possible way and intends to take an active part in international projects aimed at:

- consolidating international efforts to solve these and other acute environmental problems and issues of human dimension;
- giving an environmental orientation to modernization and development of production in the region;
- supporting environmental initiatives aimed at application of environmentally appropriate technologies, bio- and nanotechnologies, environmental innovations in production;
- attracting international financial institutions in investment and crediting for priority programs and projects in the field of environmental protection, improvement of ecological situation and environmental sanitation education and training, and health protection.

Environmental monitoring defines the processes and activities that need to take place to describe and monitor the quality of the environment. Environmental monitoring is used in the training of environmental impact assessments, as well as in many conditions in which human activities carry a risk of harmful effects on the natural environment. All monitoring strategies and programs have reasons and justifications which are often designed to establish the current status of an environment or to establish trends in environmental parameters. In all cases the results of monitoring will be studied, analyzed statistically and published. The design of a monitoring program must consequently have regard to the final use of the data before monitoring starts.

Air quality monitoring is performed using particular equipment and analytical methods used to establish air pollutant concentrations. Air monitors are operated by

citizens, governing agencies, and researchers to investigate air quality and the effects of air pollution.

Clarification of ambient air monitoring data often involves a consideration of the spatial and temporal representativeness of the data gathered, and the health effects associated with exposure to the monitored levels. Since air pollution is carried by the wind, contemplation of anemometer data in the area between sources and the monitor often provides insights on the source of the air contaminants recorded by an air pollution monitor. Close to the earth's surface, the atmosphere normally gets colder with height, but on certain days, the atmosphere begins to get deeper with height a short distance from the earth's surface, and air emissions build up under this "cap" on the vertical mixing.

Topographic features (such as a valley) that prevent lateral atmospheric mixing, coupled with the vertical cap on atmospheric mixing caused by an inversion, can lead to specially high air pollutant concentrations, for example, the 1948 Donora smog.

Air dispersion models that combine topographic, emissions and meteorological data to predict air pollutant concentrations are often helpful in interpreting air monitoring data.

If an air monitor produces concentrations of multiple chemical compounds, a unique "chemical fingerprint" of a particular air pollution source may emerge from analysis of the data.

Conclusion

In this work reviewed the concept and classification of electronic educational resources. Electronic education resources and any other funds are the alternative activities of learning, suggest a form of presentation, exercise and control of knowledge. This is one of the ways of material feed in conjunction with traditional textbooks.

The use of electronic educational resources has its positive and negative sides. Positive: provision of new quality of education, orientation towards modern forms of education, high interactivity, increased academic independence of the students; ensuring the ability level differentiation and individualization of instruction (this applies both to the level of formation of subject-specific skills and knowledge, intellectual and general skills). Negative: unfortunately, no live communication teacher and a student. But electronic education resources gives everyone the opportunity to work at their own pace.

In this work also examined the company's software is "Adobe" which allow you to quickly and easily create electronic educational resources. Also examples of model lessons that used electronic education resources. And as the practical part was composed of one lesson using the electronic educational resource.

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