



Creating a training multimedia course on methodological support of training sessions

UDC 004.42:796.011



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Abstract

Objective of the study was to substantiate the methodology for creating an educational multimedia course for a system of training sessions.

Methods and structure of the study. The methodological basis of the study is the theory of multimedia learning developed by the American educator and psychologist Richard E. Meyer, which states that optimal learning occurs when the visual and verbal components of the educational material are presented to the student together and simultaneously.

Results and conclusions. The process of creating a multimedia course consists of several stages: development of a didactic scenario for presenting the material of training activities; development of technological steps of the course scenario; selection of the content of training sessions in the form of digitized elements of what needs to be done in training; concrete creation of an integral system of training sessions of the course based on special computer software; testing and approbation of the multimedia system of training sessions.

Multimedia courses of a sports and coaching orientation have their own specific features, in particular, they contain a component associated with working on sports simulators that imitate real examples of coaching activities, for practicing and "polishing" various special techniques related to sports types of movement (according to sports). Such simulators virtually provide the conditions for measuring numerous indicators

Keywords: *educational multimedia course, multimedia creation methodology, training sessions, didactic scenario of material presentation, technological steps of the scenario, multimedia content.*

Introduction. The use of powerful computer multimedia systems and interactive software systems has become a new step in the application of modern types of presentation of educational information. But, despite the potential of information technologies and technical means of their implementation, it should be noted that the quality of education and training of athletes with their help depends, first of all, on the quality of the presentation of educational and training material and the form of its presentation in these software products. There are many problems associated not only with the development of completely new types and types of presentation of sports and training information, but also with the method of its presentation to users, as well as the method of creating educational multimedia material for training sessions and technological steps when using multimedia content of sports and training processes. In this regard, the emphasis is on new methodological ap-

proaches in the development of the content of the training session and the importance of the implementation of productive methodological systems for the creation of educational multimedia courses is increasing. The emergence of powerful multimedia tools and technologies with their connection to the global Internet network makes it possible to partially solve these problems.

Objective of the study was to substantiate the methodology for creating an educational multimedia course for a system of training sessions.

Methods and structure of the study. The methodological basis of the study is the theory of multimedia learning, developed by the American educator and psychologist Richard E. Meyer, which states that optimal learning occurs when the visual and verbal components of the educational material are presented to the student together and simultaneously [1]. It has been proven that with double coding of the visual (visual) and



auditory (verbal, oral) components of information, with its joint visual-spatial representation matrix and the repetition loop (in the so-called working memory model), educational material is absorbed much more efficiently. According to researcher I.M. Yaglom, the human hearing organ can miss about 1000 units of information at the same time, the tactile organ - 10,000, and the visual organ - 100,000 [2], and N.V. Krasnov confirms that a person remembers 15% of the information he receives in speech form, 25% in visual form, but if both of these methods are used simultaneously and synchronously, then he can perceive up to 65% of the content of this information [3, p. 16]. That is why the multimedia capabilities of presenting and transmitting information can enhance the learning effect, since multimedia is data or content that is presented simultaneously in different forms: sound and video, animated computer graphics. And if we take into account that multimedia capabilities add textual (voiced) and figurative (visual) graphic video information, as well as the possibility of interactive interaction with it, then this greatly enhances achievements in the assimilation of educational material.

Results of the study and their discussion. Recall that a *multimedia course* is understood as a complex of logically connected structured didactic units (thematic training sessions), which are presented in digital format and contain all the components of the educational and training process.

The process of creating a multimedia course consists of several stages:

The first stage: development of a didactic scenario for presenting the material of the training activity.

The second stage: development of technological steps of the course scenario.

The third stage: the selection of the content of the training sessions in the form of digitized elements of what needs to be done in training (taking into account their multimedia ambiguity).

The fourth stage: the concrete creation of an integral system of training sessions of the course based on special computer software.

Fifth stage: testing and approbation of the multimedia system of training sessions.

A *didactic scenario* is understood as a methodically built sequence of pedagogical techniques, methods and technologies that are aimed at a specific goal of a training session. Its characteristic feature is that it can have both a linear and a non-linear sequence of training exercises, including various branching options with the possibility of returning to its original position, including transitions via hyperlinks in the form of so-called "windows", and also it must necessarily have adaptability mechanisms, which consist in adjusting (adaptation) of the multimedia system to the capabilities and level of learning (training) of the person with whom they work in class.

The didactic scenario reflects the author's idea of the content side of the course and its structure. The scenario also reflects: the *pedagogical principles* underlying the training sports activities, *techniques and methods* that, as a rule, duplicate similar "run-in" pedagogical techniques and methods inherent in the corresponding sport with traditional support of the training process.

The next step in creating a multimedia course of the system of training sessions is the *stage of developing the technological steps of the scenario of this course*. It consists of a description of information and communication technologies used to implement the didactic scenario and the direction of its application, which allow you to determine the capabilities of the software for the implementation of a particular idea / action to implement the pedagogical side of the project, namely: how to most clearly and colorfully present the actions when performing physical techniques and exercises of an athlete; how to visually more clearly and understandably decipher the small details and nuances of emerging problem situations in the process of training actions, etc. It also includes steps to create a user-friendly user interface with a clear and comfortable system of transitions between fragments of one or more topics (or classes); steps to create convenient navigation between training material objects with different levels of detail, as well as with a convenient and intuitive toolbar of various switches, checkboxes, input and output windows, icons for launching various tools, etc.

In the technological scenario, the material is built according to the levels of the hierarchy, taking into account the following directions: the most optimal components of access to the content of the training material, the most convenient navigation between the components of the educational material presented to the user; colorful and ergonomically sound design of the interface of a computer program; convenient instrumental navigation; a sufficient set of special multimedia applications, including control ones.

The next stage is the stage of *concrete creation of an integral system of training sessions of the course*, which involves several nested sub-stages, namely [4]:

- *Preparatory*, on which the text part of the *explanatory material* is prepared in advance, *static illustrations* in the form of drawings, diagrams, photographs, ready-made sound recordings with the voices of famous personalities in sports and sound music accompaniment tracks are selected, as well as video clips of sports competitions for performing sports elements, techniques, exercises and so on.;

- *Creation of own multimedia*, where the following types of multimedia applications are used: *animations* - dynamic graphics based on the use of various moving visual effects; *audio applications* - audio recordings of comments (including copyright ones) of well-known and titled trainers, physiologists, massage therapists,



psychologists and other specialists to used diagrams, tables, illustrations, etc.; *video applications* - videos of the author's text being read, video clips of pop-up video footnotes, video explanations, etc.;

- *Layout of materials into a single software package*, in which all educational information (text, graphics and multimedia) is assembled into interactive frames in accordance with the intention of the script author. A feature of this stage is that, on the one hand, the student should be able to choose the pace and sequence of the studied training material, and on the other hand, the entire learning process should remain manageable. In terms of its implementation, it is one of the most responsible and difficult to implement.

- *Creation of the user interface of the multimedia system*. A well-thought-out interface makes it much easier to work with the system, and the use of certain standards saves the user from spending extra time on mastering it. Therefore, it is necessary to use elements, buttons and tools with well-established names, for example: Title bar, Menu bar, Status bar; Working field of the program; Scroll elements (bars), Standard buttons: "File", "View", "Help", etc. It is necessary that the user interface is intuitive and does not cause additional stress in the user's work.

- *Creation of network components*. Since modern multimedia systems are connected to the Internet, it is necessary to take into account in the created management tools a system of tools that take into account the use of Internet resources.

Multimedia sports and coaching courses have their own specific features. In particular, they use practical classes as a type of educational activity in the form of organizing a training process under the guidance of a trainer-teacher. Therefore, such courses necessarily include work with sports simulators that imitate real examples of coaching, to develop and "polish" a variety of special techniques associated with sports types of movement (by type of sports). Such simulators virtually provide the conditions for measuring numerous indicators and model characteristics of the athlete's physical and psychological state.

As an example of a constructor in the creation of electronic courses, we can name the eAuthor 3.1 system of the HyperMethod company, which has proven itself well as a tool for developing multimedia courses in the system of sports and training sessions, which includes interactive trainings, test tasks and exercises. They are intended for use by practicing trainers.

Conclusions. The analysis of the presented methodology for creating educational multimedia courses in the system of sports training sessions showed that their use in the training process leads to a reduction in volume and a simultaneous complication of the coach's activity to accompany this process. In such systems, the structure of control and consultation becomes more complicated, but the independent work of student athletes reaches a higher level, since there is a multiple repetition of training actions, with a detailed consideration of the complex moments of motor activity, which is the most important for training.

It should be noted that such systems, with numerous positive advantages, also have negative aspects of their application, in particular, the amount of preliminary work of the trainer in the preparation of methodological support increases dramatically. The negative side can also be attributed to the fact that, despite the fact that, on the one hand, the communicative openness of the training athlete increases, on the other hand, his alienation from direct contact with a living mentor increases.

Unfortunately, despite the undoubted didactic advantages of this tool, the use of multimedia courses in the training process is not yet sufficiently supported by the development of pedagogical technologies for their effective use.

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