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## THE INTERFACE OF ELECTRONIC LATIN DICTIONARY FOR VETERINARY STUDENTS

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### **Abstract**

*The article deals with some aspects of pedagogical design of the user interface of electronic educational resources. In particular, the general concept, main functions and elements of interface of the vocabulary module of the electronic textbook "Elementa Linguae Latinae" for veterinary students are described in the paper. It is very important to consider not only technical and ergonomic characteristics but also special pedagogical factors in interface designing, such as purpose and tasks of the academic discipline, specifics of methodology and study content, ideal final result of learning, the most common mistakes and difficulties.*

**Keywords:** *interface, design, electronic dictionary, electronic educational resource*

### **1. Introduction**

The problem of designing the user interface based on pedagogical design principles remains relevant to modern native pedagogy. The principles of design the interface of the electronic educational resource and the requirements to them are explored in the works of S. Denisenko, O. Zvenigorodskii, N. Korotich, V. Krasilnikova, A. Movchan, I. Roberts etc. But the most studies were conducted on an example of technical, mathematical and natural sciences, much less attention has been paid to the design of electronic textbook on foreign languages. Some aspects of the problem are highlighted in the author's works and PhD thesis [1-3].

The purpose of the article is to describe the interface of the vocabulary module of the e-textbook on the Latin language for veterinary students.

### **2. Results and discussion**

According to S. Denisenko, the interface of the electronic resource is very important because it affects the motivational and emotional sphere of the user, the speed and quality of perception and memorizing of the educational material, reduces fatigue and maintains efficiency, makes use of electronic resource more convenient, increases its efficiency functioning [4, p. 8]. However, a significant part of the electronic educational resources created does not meet the didactic, ergonomic and technical requirements. Most software developers do not know how to make programs easy to use, but they know how to introduce new capabilities in them. Therefore, instead of a quick means of achieving the goal (to focus on the training material, to acquire and master knowledge) the user is forced to be distracted by the choice of the desired functionality among a large number of settings or switching the locus (focus) attention to secondary objects. This leads to a reduction in the effectiveness of the "man-machine" interfaces [5].

The main requirements for the interface of the electronic educational resource are: simplicity, flexibility, consistency, coherence and standardization, intuitive navigation, availability of visual hierarchy and feedback elements, lack of accumulation. The program should not contain distracting elements; all student attention should be focused only on the training material.

Such attributes as menu-oriented, context-sensitive help system and additional information about what is happening without the user's participation, intuition are considered the common features of a user-friendly interface. The researchers believe that the simpler user interface – the faster command execution goes from conscious to unconscious, and the locus of attention will not be tied up the secondary tasks. Well-designed, well-organized interface works for a complete result,

attracts attention, allows faster and better absorb material, does not cause fatigue and stress during work [5].

Since the beginning of 2000, National University of Life and Environmental Sciences of Ukraine has continued a long-term pedagogical experiment on the effectiveness use of electronic textbooks in the veterinary students training.

In particular, an electronic textbook "Elementa Linguae Latinae" designed by the author's model is used in teaching and learning Latin. This e-textbook has a modular structure and there are two basic modules (Dictionary and Guidance) and Help module in it. In this paper, we will discuss in detail the first module.

The module "Dictionary" which was designed to assist in the translation of veterinary and medical terms, terminological elements, and phrases from Latin to Ukrainian and vice versa, is relatively autonomous and can be used as an independent one. The total volume of the dictionary (over 4500 units) is due to its purpose – to be a lexical guide for veterinary students. In designing dictionary, the development zone is taken into account, since the lexical minimum is only a benchmark, not the ultimate goal of forming the terminology of students, and the teacher could be able to vary the tasks on terms analysis and translation. The structural unit of the module is a section. The Dictionary module consists of three sections: Dictionary itself (4,000 units), Terminological elements (300 units), and Phrases (300 units).

The software implementation of the dictionary module is carried out in the Delphi XE2 development environment. Three databases that are supported by Delphi XE2 are created to allow them to be replenished and edited. Based on functional and ergonomic requirements, the overall structure of the user interface was developed, the appearance of its elements was configured, and a convenient menu navigation was designed.

Species and typological characteristics of the e-textbook, which were defined on the conceptual stage, have determined its main functions the general concept of the interface (Fig. 1).

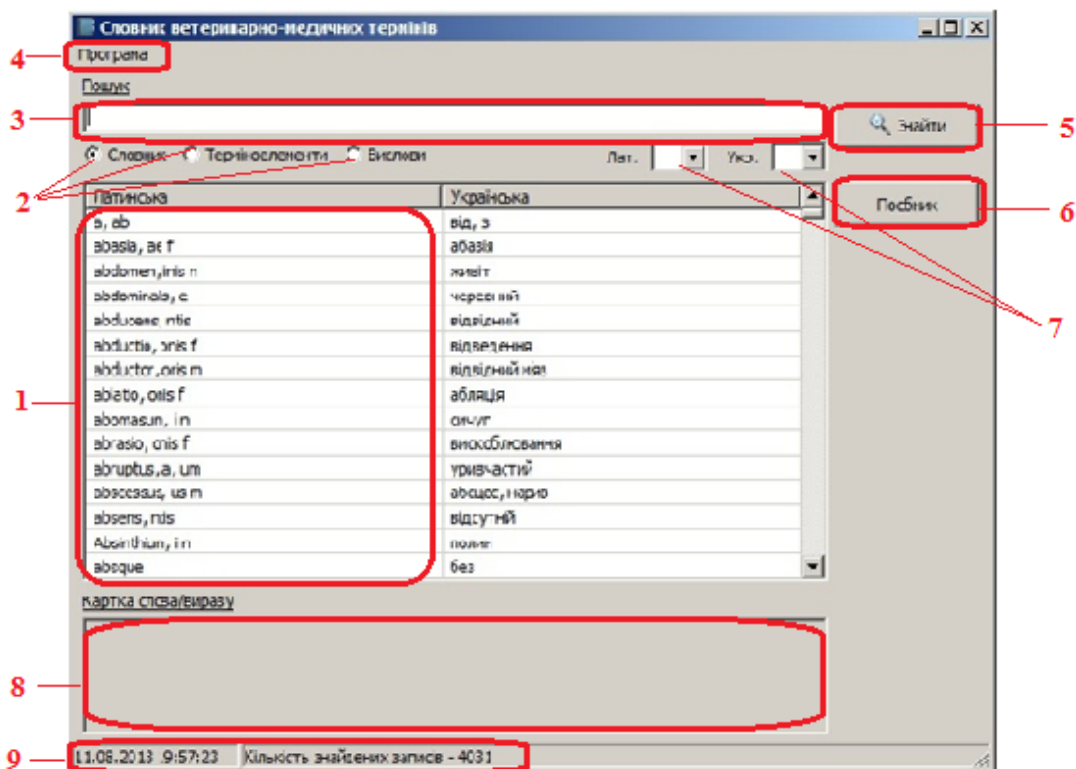


Fig. 1. Dictionary interface module: 1 – the main window of the active section of the dictionary; 2 – radio buttons for navigation and transition between sections; 3 – textbox; 4 – the button "Program"; 5 – search button; 6 – "Guide" button; 7 – dropdown lists with Latin and Ukrainian alphabets; 8 – Word / Phrase Card window; 9 – the status bar

There is a main window of the dictionary active section in the central part of the interface, and there are three radio buttons for navigation and transition between sections above it. There are search box that consists of a text box and a search button, as well as dropdown lists with Latin and Ukrainian alphabets at the top of the interface. The "Program" button activates a pull down menu containing "Information about program", "Help" and "Guide" items, as well as items that allow you to fix the program above all windows and exit from it. The Word / Phrase Card window and the status bar are displayed at the bottom of the screen.

Modern researchers consider convenient navigation and information searching to be one of the major advantages of e-learning tools [6, p. 16]. As for the benefits of electronic dictionaries, most scholars draw attention to the potentially unlimited volume, full-text searching, and the rational structuring of information through zoning using hypertext technologies [3]. The program interface provides a convenient navigation and search system that allows the user to move between sections of the vocabulary freely, view their content, search for a lexical (word-forming, phraseological) unit, get a translation, grammatical commentary, and interpretation of terms.

The dictionary module supports two translation direction: Latin-Ukrainian and Ukrainian-Latin. The register of words (terminological elements, sentences) of the source language is given in the left part of the main window, and a translation – in the right one. The component and structural unit of the module "Dictionary" is a vocabulary entry that consists of the input word, its translation and grammatical commentary. The optimal microstructural parameters for the vocabulary entry are formal (writing, grammatical information) and interpretative (Ukrainian / Latin equivalent, interpretation).

Latin words are given in the traditional vocabulary form, that is also used in printed dictionaries. However, a vocabulary entry in the electronic dictionary has two-level structure: compressed one and extended one. In the short version a traditional vocabulary entry is given, it realizes mainly reference function. An expanded version of the vocabulary entry was developed by zoning information to enhance the learning function. An instructional grammar (lexical, syntactic) comment is proposed for each input word (terminological element, phrase), which is called upon the user's request by clicking on the input word and appears in the Word / Phrase Card window.

A large number of difficulties and mistakes of identification and translation of multicomponent veterinary terms is caused by the fact that national nomenclature names do not always duplicate Latin and differ from them by structure and derivation model. Therefore, in this dictionary, unlike the printed ones, much attention is given to multicomponent terms, their composition is analyzed and the grammatical structure is given in the instructional comments.

Thus, the functions of the teacher (in the area of educational impacts and explanations) are partly transferred to electronic educational resource, and students could get the possibility to self-control and self-correction of their educational activities. Since the commentary zones of vocabulary entries are usually hidden and activated by the user's choice, this provides new possibilities for self-checking and self-control of the level of knowledge in grammar and terminology, not implemented in print dictionaries. Moreover, the placement of such detailed comments in the print edition would cause increase in volume, which could negatively effect on its usability in educational practice.

An ability to check own knowledge creates a favorable environment for self-education, stimulates the student to master difficult terminological stuff, develops the desire to acquire knowledge and learn on their own. This approach corresponds to the ARCS model including such components as Attention, Relevance, Confidence and Satisfaction [3, p. 169].

The functional capacity of electronic dictionary as a component of the software meet the main quality characteristics: functionality, reliability, usability, efficiency, maintainability and portability.

## Conclusions

Designing of interface is a crucial stage of the development of electronic educational resource. It is very important to consider not only technical and ergonomic characteristics but also special pedagogical factors in interface designing, such as purpose and tasks of the academic discipline, specifics of methodology and study content, ideal final result of learning, the most common mistakes and difficulties etc.

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