

INFORMATION TECHNOLOGI-ES

The system of information translation environment

I. Dolynskiy

Khmelnitskyi National University, Khmelnytskyi, Ukraine
Corresponding author. E-mail: dolynskiy@mail.ru

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Abstract. Written translator is an independent professional activity and precedes in certain the professional environment. The researchers note that professional environment is the heterogeneous notion. It highlights the subject subsystem, which includes the object itself, means, tools, and social subsystem that consists of interpersonal relationships, the labor climate, subjective perception and awareness by the participants of the different labor parties [10]. The professional translation environment includes conditions of professional translation activities, interpreter tasks, and tools used to achieve the objectives [5].

Keywords: *technology, information environment, future translators, ICT.*

Introduction. The analysis of leading experts works in the field of information-computer technologies (ICT) – learning and our observations result that in the university information environment, the most effective are such technologies as:

student-centered with humanistic approach (examples: cooperative learning, project method, multilevel training (A. Fedoseev, E. Polat, A. Uvarov),

new information technologies – those that provide access to world knowledge resources (J. Hassard), create conditions for integration of educational systems and the formation of a common educational and information space (A. Fedoseev, S. Christochevsky, A. Yastrebseva);

Allow you to implement a heuristic educational approach in teaching (A. hamlet), create a single medium of student communication and motivation of cognitive activity – that is, telecommunication technology [1].

Due to the fact that the professional environment can be changed under the influence of technological, economic and organizational factors [8], in the era of information it is possible to allocate the information environment.

The concept of the information environment at first was proposed by J. A. Schroeder, who regarded it not only as an information conductor, but as active basis that acts on its members [14].

Researchers consider: the integrated information environment [9], the information-subject environment, the scientific-informational environment, information educational environment.

Considering the information environment in the interpreter activities, researchers mean hardware, software, electronic resources and define it as a single complex of the translation activities provision, which is the «electronic interpreter workplace» [7].

Activities of the modern translator are related to the production, storage, exchange, retrieval and use a variety of information through information technology.

Today, many interpreters for matching the modern requirements of quality and speed of translation, use the automated workplace, which consists of hardware and software, designed to computer interaction, translator professional activities automation and provides interpreter by modern IT-tools for realization of specific professional tasks [13].

Consequently, the ICT, which the translator uses for solving professional problems, present subject subsystem and are a part component of his professional environment.

In addition to ICT, the computer-mediated communication becomes an integral part of the translation information environment, which suggests the relations presence as «Man-Information technology».

Thus, the information translation environment is a set of computer-mediated communication and information technologies in the form of software and hardware storage, processing, transmission of information that uses translator for solving professional challenges.

The need to present a coherent picture of useful translator's ICT has led to their analysis in the framework of the information translation environment.

In the description of modern computer technologies researchers use the following terms: the «new information technology», «information technology», «information and communication technology», «computer technology» [10, 13 and others].

Objective. The aim of our research was to determine the system of modern university information education environment, which can be used for future translations training.

Results and discussion. The results of our analysis showed that, in General, the researchers put in these terms the same meaning and mean the technologies of: accumulation, storage, transmission, processing, information control based on using hardware and software means and communication means.

For determination the types of ICTs that the interpreter may use in their work we have analyzed the scientific research about automation and translation support, that appeared thanks to the computer capabilities, training translators programs of various Ukrainian universities and also have interviewed 30 University translation teachers [11].

Our analysis allowed to identify three categories of ICT which are usably translators in accordance with their functional purpose:

- instrumental information technologies required for implementation and optimization of translation process;
- network information technologies ensure the internet-search and computer-mediated communication translator;
- authoring tools, created by translator himself with the help of instrumental and network ICT.

The structure of the IT tools [13] includes packages of different applied programs for different purposes and use work programs. Among them, it is possible to allocate: universal and special ICT tools.

Multi-purposed ICT tools (text editors, graphic editors, **optical** character recognitions, table processors, etc.), the

use of which in accordance with the research experts in the field of ICT does not depend on the specific professional tasks and applications. This software utility, designed to automate the development and operation of functional user tasks and information systems in general, which can be used in various professional fields [6].

The examples of these translator software activities are the following ICTs:

A text editor is a type of program used for editing plain text files. Such programs are sometimes known as «notepad» software, following the Microsoft Notepad. Text editors are provided with operating systems and software development packages, and can be used to change configuration files, documentation files and programming language source code.

Graphics editors (software) refers to a program or collection of programs that enable a person to manipulate images or models visually on a computer. These are the application software which lets the user to create and manipulate any type of computer graphics with the use of an operating system.

Computer graphics can be classified into distinct categories: raster graphics and vector graphics, with further 2D and 3D variants. Many graphics programs focus exclusively on either vector or raster graphics, but there are a few that combine them in interesting ways. It is simple to convert from vector graphics to raster graphics, but going the other way is harder. Some software attempts to do this.

Optical character recognition (optical character reader, OCR) is the mechanical or electronic conversion of images of typed, handwritten or printed text into machine-encoded text, whether from a scanned document, a photo of a document, a scene-photo (for example the text on signs and billboards in a landscape photo) or from subtitle text superimposed on an image (for example from a television broadcast). It is widely used as a form of data entry from printed paper data records, whether passport documents, invoices, bank statements, computerized receipts, business cards, mail, printouts of static-data, or any suitable documentation. It is a common method of digitizing printed texts so that they can be electronically edited, searched, stored more compactly, displayed on-line, and used in machine processes such as cognitive computing, machine translation, (extracted) text-to-speech, key data and text mining. OCR is a field of research in pattern recognition, artificial intelligence and computer vision [9].

Archives are the computer programs which carry out data compression in a single archive file for easier transfer or storage. As the data are usually files and folders. The process of creating the file is called archiving or packing (compression, compression), and the reverse process is unpacking. Examples are: WinZip, WinRar, 7-zip.

Specialized ICT tools [3] are professional software intended for solving specific professional tasks. In the interpreter activity they are oriented with the specificity of this work and have effective organizational support in the translation process. Examples of these software tools are:

Machine-readable dictionary (MRD) is a dictionary stored as machine (computer) data instead of being printed on paper. It is an electronic dictionary and lexical database.

A machine-readable dictionary is a dictionary in an

electronic form that can be loaded in a database and can be queried via application software. It may be a single language explanatory dictionary or a multilanguage dictionary to support translations between two or more languages or a combination of both. Translation software between multiple languages usually apply bidirectional dictionaries.

Machine translation, sometimes referred to by the abbreviation **MT** (not to be confused with **computer-aided translation, machine-aided human translation (MAHT)** or **interactive translation**) is a sub-field of computational linguistics that investigates the use of software to translate text or speech from one language to another.

On a basic level, MT performs simple substitution of words in one language for words in another, but that alone usually cannot produce a good translation of a text because recognition of whole phrases and their closest counterparts in the target language is needed (Examples: **PROMT Translation Office 2000; Lingvo 7.0**).

A translation memory (TM) is a database that stores «segments», which can be sentences, paragraphs or sentence-like units (headings, titles or elements in a list) that have previously been translated, in order to aid human translators. The translation memory stores the source text and its corresponding translation in language pairs called «translation units». Individual words are handled by terminology bases and are not within the domain of TM.

Software programs that use translation memories are sometimes known as **translation memory managers (TMM)** [7].

Translation memories are typically used in conjunction with a dedicated computer assisted translation (CAT) tool, word processing program, terminology management systems, multilingual dictionary, or even raw machine translation output.

An effective use of these technologies became a key factor; in determining the competitiveness of modern professional, including interpreter.

O. Hrebenshchikova, Z. Pidruchna [6, 11] note that the effectiveness of all forms of educational activity organization in the process of education in university information environment of future translators is determined by the complexity of the methods and means of pedagogical interaction.

In the education process in the university information environment there is no direct communication between teacher and students during lectures, practical lessons, i.e., that is learning occurs in the conditions of remoteness of the subjects of study by means of new information technologies that has led and significantly influenced the choice and the specifics of teaching methods.

During professional training, we used both traditional methods of teaching and information technology. As noted by O. Honcharova, modern information technologies enable a shift from reproductive learning methods to search, heuristic, research, problem-based teaching, as well as give the possibility to combine different teaching methods to ensure the active search activity of students, promote more meaningful and independent acquisition of knowledge [11].

The use of computer technology has allowed us to use telecommunication methods of constructing knowledge, namely, creative teaching, project-based learning and

cooperative learning, in which there is no single information source and field of study were not related to a material, but to the activities of the student. New information technologies have created the conditions for the retrieval, analysis, mapping, discussion, that is, develop critical thinking skills contributed to the effectiveness of independent work [5].

The leading role belonged to the methods of programmed learning, which provided for a significant increase of the independent students work share, which is carried out at their own rate and under control of special software. The core of the programmed education is curriculum. The leading idea of programmed learning was the formation of the educational material structure, its content and scope on the basis of items of information. The content of each theme was divided into separate, logically complete pieces of information, elements of information.

These elements were placed in a certain sequence that

was determined by the logic of educational content. The student's actions of the mastering the information element was called a step. Having made a step, the student answered the question formulated for a specific step, by choosing the correct answer. The correct answer allowed him to go to the next step, if it is incorrect – the student should to have worked for the same material. Programmable training provided great opportunities for the implementation of individualized education. The implementation of this training in our experiment was due to the use of computers in teaching [4].

The results of the research concerning the theory and practice of distance learning is represented by N. Besedina, H. Kozlakova, N. Tanasa, shows that in the conditions of university information environment it is possible to use effectively all training methods as in traditional teaching, but they have their specificity. In **table 1** we consider the traditional methods of teaching and their realization with ICT [3].

Table 1. The specificity of traditional methods in the university information environment

The method	Information technology	Forms of information presentation
Verbal: – narration	e-mail; forum; web-site	video lectures, video fragments, text, hypertext
– explanation	e-mail; chat; web-site	live or recorded sound
– conversation	forum; chat; e-mail; phone	live or recorded sound
– lecture	e-mail; web-site; forum	live sound, text, hypertext, video lecture, video
– work with book	e-mail; web-site	text, hypertext
Visual: – a method of illustration; – method demonstrations	Web-site; Web-site;	video clips, hypertext, interactive maps and charts, virtual lab
Practical: – exercises; – laboratory work; – practical work	Web-site; web-site; web-site	diagrams, chart, virtual laboratories, hypertext, interactive texts, simulators

It should be noted that, despite the huge variety of represented ICT, the professional activities of written translators is still very time consuming. With all the above types of ICT translator gets the opportunity to concentrate on their core professional task of creating an adequate translation.

Conclusions. At various stages of the written translation it can be used the significant amount of certain types of ICT. This diversity is justified. However, it should be noted that not all stages of translation requires the same intensity of their use.

It is important the study of the sequence of the written translators work and the identification of needed ICT at various stages of professional activity in the solution of translation problems.

Effective integration of various ICTs largely depends on how exactly the translator will be able to assess the capabilities of existing ICT, tailored to specific professional needs, and the ability to professionally use them and turn them into a seamless part of their professional activities.

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