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IMPROVING THE TEACHING OF THE SUBJECT "COMPUTER TOOLS IN LINGUISTIC RESEARCH" BASED ON SOFTWARE TOOLS

Fayziyev Nozim Asfandiyorovich,
Rustamov Ramziddin Toshpo'latovich
Teachers of the Samarkand State Institute of Foreign Languages
Telefon:+998(97) 927 06 12, +998(99) 750 39 16
e-mail: fayziyev@samdchti.uz

Abstract
This article discusses the issues of creating multimedia presentations based on modern software tools and organizing classes using them in teaching the subject "Computer tools in linguistic research" in the educational direction of the higher educational institution "Computer Linguistics".
Key words: linguistics, computational linguistics, hypertext, sound, graphics, video, test, multimedia, animation, simulation model, modern, software tool.

It is known that the science of linguistics was formed as an independent science in the 19th century (in 1816). Since then, it has been developing in various aspects and directions. In recent years, linguistics, as in all other sciences, has been rapidly developing at the "intersection" of two sciences. For example, sociolinguistics (sociology and linguistics), psycholinguistics (psychology and linguistics), ethnolinguistics (ethnography and linguistics), neurolinguistics (neurology and linguistics), mathematical linguistics and computational linguistics can be included among such disciplines. This situation can be observed in other disciplines as well: biochemistry, astrophysics, mathematical physics, mathematical logic. It should be considered as mutual cooperation and integration of several disciplines in the system of sciences.

Since the 50s of the 20th century, the terms "machine translation" and "machine linguistics" have been used in linguistics. It was a proof that computer technology, which is a great discovery of the century, has entered linguistics as well. Machine translation or automatic translation refers to the rapid translation of a text from one language into another using an EHM (computer). The founders of machine translation were representatives of the fields of cybernetics and mathematics, and later linguists began to actively participate in this work. Thus, the ideas of machine translation gained great importance in the development of theoretical and applied linguistics throughout the world. In parallel with this trend, the theory of formal grammar was created, and attention was paid to the creation of a model of language and its separate aspects. These aspects of language were developed in the field of mathematical linguistics, which in turn formed the basis for the emergence of the field of computational linguistics. So, on this basis, computer linguistics, a new direction of linguistics, and a number of theoretical and practical directions of linguistics emerged.

The science of mathematical linguistics emerged in the 50s of the 20th century (in 1952) as a separate branch of linguistics. The ideas of Louis Jelmslev, the founder of the Copenhagen School of Structural Linguistics (glossematics), served as a special "motivation" in the formation of this science. He even proposed the name of a science that explains the origin of language in mathematical terms. According

to the scientist, this science should be called "Linguistic Algebra". American linguist Noam Chomsky's views on formal grammar and transformational grammar directly caused the emergence of mathematical linguistics as a separate direction. Under the influence of such views, the science of mathematical linguistics was formed. Mathematical linguistics is a science that deals with the development of mathematical models of natural languages (such a formalized language is called a metalanguage), in particular, with the creation of algorithms for creating artificial languages.

The most important issues facing mathematical linguistics are:

- development of axiomatic theory of language;
- creating a formal grammar;
- development of mathematical models of languages.

Each subject has its own goals and objectives. The main goal of mathematical linguistics is to develop a mathematical model of natural languages. To achieve this goal, science sets the following tasks:

- development of algorithms for formal models of natural and artificial languages;
- assessment of linguistic phenomena in mathematical parameters;
- analysis of language phenomena using mathematical methods (application of probability theory, statistics and quantitative methods).

Computational linguistics is a logical continuation of mathematical linguistics, which is the most important part of applied linguistics. Computational linguistics began to take shape as a field in 1954 at the Georgetown University in the USA during the world's first experiment on machine translation, and by 1960 it was formed as an independent science. Computer linguistics is a copy of the English word "computational linguistics". Until the 80s of the 20th century, this science was called by different names: computational linguistics, mathematical linguistics, quantitative linguistics, and engineering linguistics. The main goal of this science is the development of computer programs for solving linguistic problems, optimization of human-machine (computer) communication, natural language processing. NLP involves computer analysis and synthesis of natural languages in computational linguistics. In this case, analysis refers to the computer understanding of natural language using morphological, syntactic and semantic analysis, and synthesis means the grammatical formation and generation (production) of text in a computer. The following are the software developed for NLP: AlchemyAPI, Expert System S.p.A., General Architecture for Text Engineering (GATE), Modular Audio Recognition Framework, MontyLingua, Natural Language Toolkit (NLTK).

Teachers who teach in higher education institutions should use an electronic board or a video projector during the lesson organized on the basis of multimedia technology, because in this case he will have the opportunity to work with all the listeners in the auditorium at the same time. Practice and conducted experimental tests have confirmed the effectiveness of multimedia in the educational process. While using multimedia technology to increase the efficiency of the educational process, it can have a positive effect on the educational process.

It is known that the creation and use of multimedia electronic presentations in the teaching of the subject "Computer tool in linguistic research" in higher education institutions greatly helps students master the subject. Students who learn about the new electronic presentation opportunities created will have the desire to create new projects that reflect their knowledge and be useful to others. In this case, the teacher can offer students to create an "electronic presentation". This is definitely the first step in creating an electronic presentation. This involves working with a variety of software packages to accomplish project creation. Students should be able to perform image processing, record speech and music, and use animation effects. It is important for them to find and select information, to sort it. They are assisted by a specialist and a science teacher. As a result, the possibility of using a multimedia program is created. And this form of working with students gives the science teacher

confidence that his work is very necessary for the growing young generation. Taking into account that creating an electronic presentation is a complex process, it is appropriate to implement it in stages. In our opinion, it is possible to create presentations on the basis of modern software tools and organize the teaching process using them in the teaching of the subject "Computer tool in linguistic research" in higher education institutions. This means that it is necessary to create presentations in the form of multimedia (sound, graphics, video, test and simulation models) on the basis of software tools for each topic of "Computer tools in linguistic research". For example: in higher education institutions, it is necessary to create multimedia presentations on the subjects of "Computer tools in linguistic research" and organize the teaching process using them.

To sum up, creating multimedia presentations based on modern software tools and organizing classes using them is one of the most urgent issues in teaching "Computer tools in linguistic research" in higher education institutions.

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