# Nataliia Ishchuk

## Methodological support for multimedia-assisted teaching foreign languages at higher educational institutions

MUZEUM HISTORII POLSKI

**Nataliia** Iꜱʜᴄʜᴜᴋ
Vinnytsia Institute of Economics of Ternopil National Economic University,
Vinnytsia, Ukraine

# Methodological support for multimedia-assisted teaching foreign languages at higher educational institutions

One of the major concerns of educators today is that there is a mismatch between graduates' foreign language skills, acquired from higher educational institutions and the skill sets required by employers. Most university graduates in Ukraine are found to be lacking in proficient and creative use of a foreign language along with sufficient level of communicative skills needed for efficient problem-solving. As such, there is much need for institutions of higher education to focus on training future graduates to be more adaptable to the needs of the industry.

It is obvious that learners find it strenuous to analyze and structure the linguistic information and consequently acquire skills essential for proficient communication.

In recent years, people have become increasingly aware of the importance of wide implementation of innovative technologies focused on unsupervised learning foreign languages. Therefore, the efficient self-learning has become a hot topic in current foreign language teaching. With the development of science and technology, multimedia technology is being increasingly used in educational field. Universities are expected to make use of multimedia and network technologies as well as new teaching patterns to reform the former class teaching pattern focused on teachers' explanation.

The wide application of multimedia technologies for developing learners' foreign language skills create favourable conditions for significant reforming the existing system of professional education. As mentioned above, a number of university students do not have profound knowledge of foreign languages and their communicative skills does not comply with high school standards. However, at the stage of students' initial adaptation to the specifics of university studies, changes in educational environment as well as to the mode of self-learning it is essential to take measures for eliminating and preventing stresses which students are likely to undergo when breaking through unsupervised learning difficulties and self-controlling their progress in studies. Taking into account the foregoing, foreign language training of specialists for professional intercourse is a difficult process, which requires cultivation of a creative personality quick to

independently size up the curriculum, able to fluently operate it in professional activity, and to adapt to the continuously changing standards and situations.

A teacher in turn is supposed to be aware of the methods for introducing multimedia-based lessons at the stage of students' initial adaptation which can cover the following aspects:

1) adequate methods for preparing students for the intense use of multimedia courseware, which are determined by availability of suitable hardware, by didactics aims of applying specific e-books in specific educational situations, by functions and characteristic of the courseware, methods for its use in the educational process and the degree of students' readiness to use it in language studies;

2) methods for exploiting multimedia, which are implemented through a) generation of students' primary learning motivation; b) students' adaptation to the multimedia courseware, for which the teacher is to:
   – introduce the multimedia interface;
   – elucidate the didactic objectives of the multimedia courseware;
   – give details of the reference system and the specific features of the testing block (provided that it is available);

3) methods for the adequate use of multimedia courseware at a foreign language lesson depending on its type, objectives, and phase of the lesson to be assisted with multimedia as well as the duration of its use;

4) methods for evaluating students' performance along with taking into account the level of learners' self-support when using multimedia courseware, the time it took them to fulfill the set tasks, and students' psychological characteristics.

In order to use multimedia courseware efficiently we should determine both long- and short-term results to be reached [Красюк 2001: 187–195]. Short-term results cover the level of students' comprehension of the instructional material and the level of intensification of educational process. Long-term results include increase in the level of students' informational culture, rise in the level of students' unsupervised cognitive activity skills, and disclosure of students' creative potential.

We introduced the course of organization and conducting multimedia-based lessons aimed at forming students' mental activity in mastering both instructional material and computer tutorials on the basis of the theory of properties of mental activity designed by P. Halperin [Гальперин 1999: 267]. Below we provide a sequence of activities for foreign language skills formation with the use of multimedia.

**Step 1.** Teacher arranges visual adaptation to a multimedia courseware, forms positive emotional attitude to it and enhances cognitive motivation which is believed to be essential for inducing a person to study.

**Step 2.** Students get acquainted with the interface and performance capabilities of the courseware. Teacher tells students what results must be achieved with the help of certain multimedia courseware, makes students focus on the performance, and explains the algorithm for working with multimedia. In other words, at this stage presented is the instructive material to be learnt.

Thus we can pass to **step 3** when students materialize and accomplish their actions in the form of external speech. Teacher focuses on developing students' active and favourable ability to work with computer autonomously as well as to reproduce all the necessary operations with it, which is believed to result in students' successful adaptation to the courseware.

**Step 4** is characterized by the transition to accomplishment of the action in the form of inward external speech when students skip several mental operations. Teacher may stimulate students to consolidate the algorithm for working with the courseware through asking them incentive questions.

At **step 5** students are ready to work autonomously accomplishing all the tasks in the form of inward speech.

The abovementioned primary characteristics of an action lead to formation of its further properties: durability, consciousness and reasonableness.

Teacher is expected to define and comment the tasks for self-learning and to set the problem to be solved. He consults individual students only and monitors the level of instructional material acquisition. If mistakes are made, teacher offers a student either to start from the very first step or to try to do the task using the references provided by multimedia courseware.

Successful implementation of the tasks at this stage is indicated by:

– students' activity and self-support in the process of performing learning tasks;
– students' ability to rationally organize their unsupervised work and cognitive activity.

On the basis of theoretical analysis and practical experience we have developed a number of recommendations teacher should follow in arranging multimedia-assisted instruction.

1. Work out a scenario for students' performance in class considering capabilities of multimedia courseware to be used. If it does not allow to fully accomplish the set objectives, additional tasks must be developed.
2. Provide a detailed elucidation of how to use the multimedia courseware; generate the proper learning motivation.
3. Monitor the level of instructional material acquisition.
4. Use various methods to create problem situations which include such aspects as: producing a theoretical or practical problem which requires breaking through the barriers between the student's formed world outlook and the new phenomena; taking into account student's intellectual abilities; giving

a student an idea how to solve the problem task in case they cannot do it without teacher's assistance.

5. When using multimedia as a visual aid, provide acquisition of the information to be learnt during a) preview, b) review, and c) post-view. Use special tasks for focusing students' attention at every step.

6. Allocate time for students' autonomous work when they are supposed to accomplish the tasks in the form of inward speech.

7. Organize students' autonomous work so that it would be tested either by computer or teacher with students self-controlling their own progress. Self-control means a) ability to understand and apprehend teacher' supervision; b) ability to observe and analyze other students' learning activity; c) ability to observe and analyze their own learning activity, modify it and assess it objectively.

8. Monitor changes in students' psychological state, prevent students from overstrain and overuse a multimedia courseware.

9. Work out a clear plan and instructions for students' extracurricular unsupervised work which is not to be exhausting, since overload results in perfunctory attitude to learning, unwillingness to do the tasks, weakening the sense of responsibility for the progress in studies.

10. Work out individual strategies for multimedia-assisted unsupervised work for each student.

11. Inform students about the content, size and term of unsupervised work providing detailed information on how to organize it efficiently, i.e. how to find supplementary reference books, how to control the progress independently, and how to determine individual learn mode.

12. Make sure that students are able to successfully study unassisted and are ready to take charge of their own learning.

These theoretical standpoints for methodological support of the teaching-learning process were verified when teaching English for specific purposes at Vinnytsia Institute of Economics.

Having a good command of a language implies knowledge of lexical units, while language proficiency in professional intercourse is associated with vocabulary skills. Having tested the level of students' vocabulary skills and analyzed the obtained results we found out that they are rather poor. In the course of studying the topic „Professional competence of accountants", the students were asked to characterize a competent accountant using as many adjectives as possible. 90% of all the students we able to retrieve 4–5 adjectives only, which is obviously not enough for a specialist striving to be competitive in today's labour market.

Since at higher educational institutions little time is allocated for learning a foreign language, it is reasonable to select active vocabulary (to be used for

expressing own ideas) separately from sleeping vocabulary (to be used for understanding people's ides either in speaking or writing).

Educational texts together with traditional models for foreign language training specialists for professional intercourse take a great deal of students' time to master the vocabulary. To our mind, this problem can be efficiently solved through multimedia-assisted learning.

In the course of multimedia-assisted teaching, the students were learning lexical units with the help of multimedia courseware, while other students were trained by traditional methods that include oral repetition of certain words, word-combinations and clichés after the teacher, filling in gaps in texts with appropriate words, making up sentences with certain lexical units etc.

To identify the results and disclose the main indices characterizing the level of proficiency in using lexical units, we measured and gathered these data:
- the planned number of lexical units to be learnt by student during a lesson (n);
- learning time (t);
- the real number of lexical units learnt by student (m).

To find out how well the students handle the lexical units on the appointed topics, we questioned and tested them. The results were recorded in a summary table. We calculated the average value of the mark by this formula [Сидоренко 2000: 231]:

$$\overline{x} = \frac{\sum f_x \cdot x_i}{n} \quad . \tag{1}$$

The averages of the learnt lexical units, which we obtained on the basis of the figures from the summary table are shown below (table 1):

**Table 1**

**The averages of the learnt lexical units through both multimedia-assisted training and traditional training**

| Topic | Multimedia-assisted training | | | Traditional training | | |
|---|---|---|---|---|---|---|
| | n | $\overline{m}$ | t | n | $\overline{m}$ | t |
| Daily Routines | 35 | 28 | 80 | 35 | 20 | 80 |
| Business Travel | 40 | 33 | 80 | 40 | 24 | 80 |
| At the Customs | 28 | 24 | 80 | 28 | 20 | 80 |
| Σ | 103 | 85 | 240 | 103 | 64 | 240 |

These data allow us to calculate:
1) time it should take students to learn a lexical unit:

$$\tau = \frac{t}{n} \; ; \tag{2}$$

2) real time it takes students to learn a lexical unit:

$$\tau_o = \frac{t}{m} \; ; \tag{3}$$

3) real rate of learning a lexical unit:

$$\mu = \frac{m}{t} \; ; \tag{4}$$

4) rate of forgetting:

$$\lambda = \frac{x}{t} , \tag{5}$$

where x is the number of lexical units forgotten for a certain time period;

5) load intensity:

$$\rho = \frac{\lambda}{\mu} . \tag{6}$$

The results of the calculation are presented in table 2.

Table 2

**Indices of proficient use of active vocabulary**

| Mode of training | $\tau$ | $\tau_o$ | $\mu$ | $\lambda$ | $\rho$ |
|---|---|---|---|---|---|
| Multimedia-assisted | 2,3 | 2,8 | 0,35 | 0,08 | 0,2 |
| Traditional | 2,3 | 3,75 | 0,27 | 0,16 | 0,6 |

Positive shifts in both grammar and communicative skills were recorded and verified by using other methods of mathematical statistics. Moreover, having

applied Vilkokson criterion T, we were able to substantiate the impact of the suggested methodology on successful foreign language studies.

The obtained results evidently prove the efficiency of multimedia-assisted teaching foreign languages provided that the suggested methodological support is introduced into educational process of universities. It creates a proper atmosphere for students' active learning, hence it is a powerful tool to improve teaching-learning process and satisfy both teacher's and students' needs.

It is strongly recommended that program-makers and foreign language teachers developing multimedia courseware in close co-operation should consider numerous innovative pedagogical and methodical ideas as well as peculiarities of the vocabulary to be learnt. When creating them one should apply the principles of communicative approach along with ideas of entertaining the teaching-learning process.

Unfortunately, in Ukraine, the problem of developing multimedia courseware for learning foreign languages for specific purposes still exists. This fact is determined primarily by the absence of appropriate governmental financing of educational institutions, in particular programmers, although their intellectual work is highly appreciated worldwide.

### Literature

Гальперин П.Я. (1999), *Введение в психологию: Учебное пособие.* – Ростов н/Д.: Фенікс. – 332 с.

Красюк Ю.М. (2001), *Умови та етапи впровадження нових інформаційних технологій у процес навчання інформатики у вищих навчальних закладах* // Комп'ютерно-орієнтовані системи навчання. Вип. 3: Збірник наукових праць. – К.: НПУ ім. М.П. Драгоманова. – С. 187–195.

Сидоренко Е.В. (2000), *Методы математической обработки в психологи.* – С.-П.: Речь. – 350 с.

### Abstract

The article provides theoretical substantiation for multimedia-assisted teaching foreign languages on the basis of the developed methodological recommendations, which appeared to be a solid background for successful mastering a foreign language. Since in today's labour market is a need in specialists having a sufficient level of communicative skills, university teachers are expected to rely on effective methods for enhancing students' cognitive abilities, which in turn will develop student's independency and flexibility in lifelong self-learning. Provided are some results of the experiment, which prove the positive impact of the suggested methodological support on successful learning foreign languages.

**Key words:** methodological support, multimedia-assisted teaching foreign languages, properties of mental activity, students' cognitive activity, self-learning, multimedia courseware.

## Metodologia multimedialnego wspomagania nauczania języków obcych w szkołach wyższych

### Streszczenie

Artykuł ten stanowi teoretyczne uzasadnienie dla zastosowania multimedialnego wspomagania nauczania języków obcych. Opracowano w nim zalecenia metodologiczne, które okazały się trwałą podstawą dla skutecznego opanowania języka obcego. Ponieważ na dzisiejszym rynku pracy występuje zapotrzebowanie na specjalistów posiadających odpowiedni poziom umiejętności komunikacyjnych, nauczyciele akademiccy mają polegać na skutecznych metodach zwiększających zdolności poznawcze studentów, które rozwijają niezależność i elastyczność ucznia w ustawicznym samokształceniu. Wyniki przeprowadzonego eksperymentu dowodzą, iż istnieje pozytywny wpływ proponowanego wsparcia metodologicznego na sukces w uczeniu się języków obcych.

**Słowa kluczowe:** wsparcie metodyczne, nauczania języków obcych ze wspomaganiem multimediów, cechy aktywności umysłowej, poznawcza aktywność uczniów, samokształcenie, multimedia edukacyjne.