

UDC 378

DOI <https://doi.org/10.24919/2308-4863/55-1-30>**Inna AKHMAD,***orcid.org/0000-0001-7673-4308**Ph.D. in Philology,**Associate Professor at the Department of English for Engineering № 1
National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”
(Kyiv Ukraine) innakhmad737@gmail.com***Viktoriia CHMEL,***orcid.org/0000-0002-4468-1800**Lecturer at the Department of English for Engineering № 1
National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”
(Kyiv Ukraine) vickychmel@gmail.com***Tetiana LYSENKO,***orcid.org/0000-0003-3081-6329**Lecturer at the Department of English for Engineering № 1
National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”
(Kyiv Ukraine) lysenko.tetiana@lil.kpi.ua*

INTEGRATION OF MODERN TECHNOLOGIES INTO ESP TEACHING PROCESS

The content of the paper was determined by the role that multimedia technologies application plays in teaching English for Specific Purposes. The efficiency of multimedia technologies integration into educational process to improve communicative skills of the future engineers has been highlighted. The fact that knowledge of the English language as a means of international communication opens new perspectives for graduates of technical universities to raise their qualification abroad has been mentioned. The main goals of ESP teaching have been pointed out. The focus is made on the competences and skills the engineering students get at the universities to be competitive in the global labor market. The impact of the multimedia aids use at the English lessons has been analyzed. The teacher's role in teaching English for Specific Purposes is distinguished. The paper outlines the English language syllabus and the types of work widely used at the English lessons in technical universities. The author describes the main steps of creating efficient presentation and explains the importance of the acquired knowledge for the engineering students. It is considered that making presentations enables students to organically integrate their knowledge in different fields, generate new ideas, think independently, and communicate the results of their work to the audience. The basic principles of communicative learning are mentioned. The possibilities that multimedia presentations give to both teachers and students are distinguished. Examples of possible tasks and activities for studying the topic ‘Newton's three laws of motion’ are presented. The importance of the latest interactive technologies integration into the process of ESP teaching and learning as an inseparable part of training highly qualified engineers with profound knowledge and developed professional communicative competence, ready to solve scientific problems and share the results of their research with foreign partners from other countries is stated. Recommendations on how to make and apply efficient presentations with colorful images and video files or animation are given.

Key words: *ESP teaching and learning, communicative competence, skills, multimedia technologies, efficient presentation.*

Інна АХМАД,*orcid.org/0000-0001-7673-4308**кандидат філологічних наук,**доцент кафедри англійської мови технічного спрямування № 1
Національного технічного університету України «Київський політехнічний інститут
імені Ігоря Сікорського»
(Київ, Україна) innakhmad737@gmail.com***Вікторія ЧМЕЛЬ,***orcid.org/0000-0002-4468-1800**викладач кафедри англійської мови технічного спрямування № 1
Національного технічного університету України «Київський політехнічний інститут
імені Ігоря Сікорського»
(Київ, Україна) vickychmel@gmail.com*

Тетяна ЛИСЕНКО,

orcid.org/0000-0003-3081-6329

*викладач кафедри англійської мови технічного спрямування № 1
Національного технічного університету України «Київський політехнічний інститут
імені Ігоря Сікорського»
(Київ, Україна) *lysenko.tetiana@lil.kpi.ua**

ВПРОВАДЖЕННЯ СУЧАСНИХ ТЕХНОЛОГІЙ У НАВЧАЛЬНИЙ ПРОЦЕС ВИКЛАДАННЯ АНГЛІЙСЬКОЇ МОВИ ПРОФЕСІЙНОГО СПРЯМУВАННЯ

У статті розглядається впровадження сучасних технологій у навчальний процес викладання іноземних мов серед яких англійська мова, як засіб міжнародного спілкування, має вирішальне значення для персонального розвитку та професійного зростання молодого спеціаліста. Особливе значення використання мультимедійних засобів має в навчанні студентів інженерних спеціальностей. Комунікативний підхід розглядається як пріоритетний у викладанні англійської мови професійного спрямування в глобальному світі стрімкого розвитку інформаційних технологій. Компетенції та навички набуті студентами в процесі вивчення англійської мови надають нові можливості для спілкування зі світом, для міжнародного співробітництва в галузі науки і техніки. Інтеграція новітніх технологій в навчальний процес є невід'ємною частиною навчання іноземної мови студентів технічних університетів, оскільки підготовка висококваліфікованих інженерів з глибокими знаннями та добре розвинутою професійною комунікативною компетенцією вимагає від викладачів постійно підвищувати свою кваліфікацію, знайомитися з досвідом своїх закордонних колег, розробляти та урізноманітнювати методики, підходи та навчальні матеріали. Визначається роль викладача в процесі навчання іноземної мови та мотивації студентів до практичного використання набутих знань та вмінь. В статті аналізується вплив використання презентацій та автентичних відео матеріалів на підвищення ефективності занять з англійської мови. Надається опис змісту завдань та видів завдань, які виконують студенти інженерних спеціальностей при вивченні іноземної мови професійного спрямування. Для вивчення теми «Три закона руху Ньютона» автори пропонують приклади вправ розроблених до відео фрагменту. Також надаються рекомендації щодо створення та ефективного використання презентацій в навчанні іноземної мови. Впровадження інтерактивних технологій в процес навчання значною мірою допомагає студентам інженерних спеціальностей поєднати сферу своїх професійних інтересів з вивченням та використанням англійської мови на практиці.

Ключові слова: англійська мова професійного спрямування, комунікативна компетенція, навички, мультимедійні технології, ефективна презентація.

Statement of the Problem. Rapid development of modern society as well as science and technology is taking place all over the world. Introduction of the latest technologies, re-equipment of production processes, exchange of experience, stimulation of scientific research and discoveries are aimed at improving the quality of people's life. That is why the status of the English language, as a means of international communication, not only in everyday life, but also in scientific circles in different parts of the world is increasing from day to day. Proficiency in at least one foreign language becomes an essential condition for both the development of personality and successful career growth of every young scientist. Expansion and strengthening of international relations open new horizons for graduates of higher educational institutions in raising their qualifications abroad, communicating with specialists from other countries, and presenting of their research results at international conferences and seminars.

Research analysis. Students and teaching staff of National Technical University of Ukraine 'Igor Sikorsky Kyiv Polytechnic Institute' have got the opportunity to participate in various international programs: ERASMUS +, Horizon 2020, and others, which opens

access to information resources of the EU countries and new opportunities for promotion of scientific and innovative projects. Therefore, the formation of communication culture among students of technical specialties and training of their practical knowledge of a foreign language are of particular importance.

The purpose of the article. The aim of this paper is to review multimedia technologies, to focus on presentations and video files as efficient means of ESP teaching and evaluate their application in teaching/learning process.

It is not a secret that the main goals of ESP teaching at technical universities are to expand the vocabulary of students, to improve their speaking and writing skills, and to teach how to translate specialized literature both from a foreign language into the mother tongue and vice versa. The English language syllabus at technical universities includes:

1. Reading. Students read and understand the content of different texts, including texts in their specialty.
2. Oral speech. Each student presents the content of the text read or heard, makes a message or report on a specific topic, answers the questions asked, takes part in the discussion.

3. Written language. Students master the skills of writing essays, reports, business letters, research papers, etc.

4. Translation. Each student should have the knack of translating different texts, including texts in his specialty (Рязанцева, 2016:531).

Main text. Communicative skills have always been considered an inseparable part of the specialist success, an indicator of his professionalism. Consequently, ESP teachers are constantly looking for new methods, technologies, techniques, and approaches to teaching a foreign language to meet the demands of modern society.

The communicative methodology is aimed at maximizing the student's immersion into the language environment and minimizing the native language use. The role of the teacher is to arouse the interest of each student, give him the opportunity to express his opinion, give arguments to prove his point of view and take part in the discussion of the topic, since interest involves all mental processes – perception, memory, thinking, and encourages students' activity at the lesson.

Since foreign language classes are communicative by nature, positive emotions play an important part in motivation students (Рязанцева, 2016:531). To increase the effectiveness of the educational process, the teacher should clearly realize the role and place of a foreign language in the life and professional activity of the future engineer and help him determine for himself the purpose of language learning.

In the course 'English for professional communication' for students of 3-5 courses at National Technical University of Ukraine 'Igor Sikorsky Kyiv Polytechnic Institute' the following types of work are widely used:

- writing abstracts and essays
- making PowerPoint presentations and reports
- participation in briefings and conferences
- role-playing and case studies, etc.

Considering swift development of computer technologies, the ability to work with various sources of information to achieve professional goals is a necessary competence for today's engineer.

In the modern world, information is predominantly presented in the form of presentations, therefore, the knowledge and skills gained at the English classes will help future engineers in their preparing for participation in scientific and practical conferences, seminars, as well as protecting bachelor's and master's works in English. To facilitate students and teach them how to create effective presentation, the textbook 'English for Presentations' (Oxford University Press) has been introduced into the curriculum of the 3rd year course. As a result, each student learns

the basic rules of presenting information in Power-Point format, how to make effective openings, state the topic and say why it is important to the audience, describe the structure of the talk, highlight the main points, and summarize the main ideas, describe graphs, tables, pie charts, etc., how to make effective conclusions and answer the questions.

Obviously, the acquired knowledge should have practical application in the learning process. That is why our students perform creative tasks (Akhmad, 2021:5). They systematically write essays on the topic of their specialization in English, which includes:

- English text (10-20 thousand characters, depending on the course)
- text translation
- vocabulary (30 terms)
- summary
- references (at least 5).

Obviously, the preparatory stage: search, selection and systematization of the material, writing the report itself, design of the visual structure requires a thorough study of all issues related to this problem. Then the students perform the Power Point presentation (10-12 slides) talking about the results of their research (5-7 minutes) with subsequent discussion at the lesson. As the presentation format is limited in time, it is saturated and dynamic and contributes to the maximum concentration of the audience attention (Saienko, 2020:38). It is presentations that enable students to organically integrate their knowledge in different fields, generate new ideas, independently think, and communicate the results of their work to the audience.

In fact, communicative learning should adhere to the following basic principles: structural principle, the principle of consistency, context principle, novelty, and interest, as well as involving all students in the communication process. To implement all these principles, it is advisable to widely use multimedia presentations in the educational process, because multimedia is a modern computer information technology that allows the teacher to combine the use of video materials, audio files, computer graphics and animation (Лисенко, 2021:85). This gives a unique opportunity to make language classes interesting, visual, and therefore accessible and understandable for all students, regardless of their level. The teacher, creating a teaching presentation for the lesson, on the one hand, masters modern teaching technologies, and, on the other hand, considers the best ways to supply educational material, for example, in the form of diagrams, tables, charts, illustrations, etc. to facilitate perception (Chmel, 2016:56). It is evident that students of engineering specialties better absorb information when it is presented in the form of structure

or scheme. Bright colorful images of the slides and the use of a video sequence or animation allow teachers to show visually the device or equipment operation, demonstrate consequences of global warming or environmental pollution, present interesting facts from the life of outstanding scientists and inventors, etc. For example, to study the topic ‘Newton’s three laws of motion’ in the 5th year we have developed some tasks and presented them as a multimedia presentation using the video clip ‘Sir Isaac Newton’.

Task 1. *Before watching the video:*

A. *Read and translate the quotation below. What did the author mean?*

‘If I have seen further, it is by standing on the shoulders of giants.’

B. *Study the following words. Match the name of science and its Ukrainian translation.*

English	Ukrainian
Astronomy	алхімія
Theology	натурфілософія
Physics	астрономія
Alchemy	фізика
Natural Philosophy	Богослов’я

Task 2. *Watch the video and state if the following statements are true or false. Correct the false ones.*

1. Sir I. Newton was a famous mathematician and astronomer.

2. Three principles of mechanics are laid out in the Newton’s mathematical principles of Natural Philosophy.

3. The Law of inertia is the first law of motion.

4. The second law says, ‘The Acceleration is produced when the external force acts on a mass’.

5. The third law states that for every action there is always opposite reaction.

6. I. Newton devised the Theory of Color.

7. I. Newton was an atheist.

8. I. Newton was buried in Westminster Palace.

Task 3. *Fill in the right form of the verbs from the box into the abstract to complete the information about Newton’s works.*

To base on, to invent, to develop, to generalize, to devise

Newton ... the first reflecting telescope. He also ... the Theory of Color. The theory ... the observation that a prism breaks down white light into many visible colors. Newton ... binomial theorem. He also ... a method of approximating the roots of a mathematical function.

Task 4. *After watching the video discuss the following questions with your partner.*

1. What were the most outstanding achievements of I. Newton?

2. Where are his inventions and works used today?

3. Why is I. Newton considered the greatest scientific mind in the history of mankind?

Conclusions. Practice shows that using presentations in the classroom helps the students learn professionally oriented vocabulary better and diminishes difficulties in discussing problems, expressing for and against arguments, making conclusions. Such tasks are interactive and contribute to the development of communication skills at the lesson.

To sum up we can infer that integration of the latest interactive technologies into the process of ESP teaching and learning is an inseparable part of training highly qualified specialists with profound knowledge and developed professional communicative competence who are ready to solve scientific problems and share the results of their research with foreign partners all over the world.

BIBLIOGRAPHY

1. Волокита А.О. Специфіка інформаційних систем на основі технології cloud computing: підручник. Київ: Книга, 2009.205с. http://archive.nbuv.gov.ua/portal/natural/vcndtu/2011_53/29.htm (дата звернення: 05.09.2022).

2. Лисенко Т.П., Мойсеєнко С.М., Лісецький К.А. Організація змішаного навчання при активізації англomовного словникового запасу студентів немовних закладів вищої освіти. *Інноваційна педагогіка*. Одеса, 2021. – № 33. Т. 1. С. 85-90.

3. Рязанцева О. В. Уміння викладача дистанційної системи освіти, необхідні для успішної комунікативної взаємодії з учасниками навчального процесу. *Молодий вчений*.2016. № 12 (40). С. 531-534.

4. Akhmad I., Mikhnenko G., Chmel V. Distance learning: problems and opportunities for the English language teachers at technical Universities Актуальні питання гуманітарних наук: міжвузівський збірник наукових праць молодих вчених Дрогобицького державного педагогічного університету імені Івана Франка Дрогобич: *Видавничий дім «Гельветика»*, 2021. № 46. С. 5-58.

5. Akhmad, Inna; Chmel, Viktoriia. Mixed forms of teaching English at Technical Universities. *Теоретичні питання культури, освіти та виховання*: Збірник наукових праць. / Заг. редакція – проф. О.М. Матвієнко . Київ: Вид. центр КНЛУ, 2018. № 2 (58). 72 с.

6. Saienko, Nataliia; Semyda, Oksana; Akhmad, Inna. Using Social Networks in Teaching ESP to Engineering Students. *Advanced Education*, [S.l.], p. 38-45, May. 2020. ISSN 2410-8286. URL: <http://ae.fl.kpi.ua/article/view/198083>.

7. Chmel, V. V. Use of video materials in teaching English for specific purposes. *Advanced Education*, 2016. С. 56–59.

REFERENCES

1. Volokyta A.O. Spetsyfika informatsiinykh system na osnovi tekhnolohii cloud computing: [The specifics of information systems based on cloud computing technology]: pidruchnik. Kyiv: Knyha, 2009.205s. http://archive.nbu.gov.ua/portal/natural/vcndtu/2011_53/29.htm (data zvernennia: 05.09.2022). [in Ukrainian].
2. Lysenko T.P., Moiseienko S.M., Lisetskyi K.A. Orhanizatsiia zmishanoho navchannia pry aktyvizatsii anhlomovnoho slovnykovoho zapasu studentiv nemovnykh zakladiv vyshchoi osvity. [Skills of the teacher of the distance education system, necessary for successful communicative interaction with the participants of the educational process] Innovatsiina pedahohika. Odesa, 2021. – № 33. T. 1. S. 85-90. [in Ukrainian].
3. Riazantseva O. V. Uminnia vykladacha dystantsiinoi systemy osvity, neobkhidni dlia uspishnoi komunikatyvnoi vzaiemodii z uchasnykamy navchalnoho protsesu. [Skills of the teacher of the distance education system, necessary for successful communicative interaction with the participants of the educational process]. Molodyi vchenyi.2016. №12.(40). S. 531-534.
4. Akhmad I., Mikhnenko G., Chmel V. Distance learning: problems and opportunities for the English language teachers at technical Universities Aktualni pytannia humanitarnykh nauk: mizhvuzivskyi zbirnyk naukovykh prats molodykh vchenykh Drohobyt'skoho der- zhavnoho pedahohichnoho universytetu imeni Ivana Franka Drohobych: Vydavnychi dim «Helvetyka», 2021. № 46. S. 5-58.
5. Akhmad, Inna; Chmel, Viktoriia. Mixed forms of teaching English at Technical Universities. Teoretychni pytannia kultury, osvity ta vykhovannia: Zbirnyk naukovykh prats. / Zah. redaktsiia – prof. O.M. Matviienko . Kyiv: Vyd. tsentr KNLU, 2018. № 2 (58). 72 s.
6. Saienko, Nataliia; Semyda, Oksana; Akhmad, Inna. Using Social Networks in Teaching ESP to Engineering Students. Advanced Education, [S.l.], p. 38-45, May. 2020. ISSN 2410-8286. URL: <http://ae.fl.kpi.ua/article/view/198083>
7. Chmel, V. V. Use of video materials in teaching English for specific purposes. Advanced Education, 2016. S. 56–59.