

AI VIDEO SERVICES IN TEACHING ENGLISH FOR SPECIFIC PURPOSES

ВІДЕОСЕРВІСИ ШІ У ВИКЛАДАННІ АНГЛІЙСЬКОЇ МОВИ
ДЛЯ КОНКРЕТНИХ ЦІЛЕЙ

Artificial Intelligence (AI) video services have emerged as a transformational tool in the teaching of English for Specific Purposes (ESP), providing individualized and interactive learning experiences. These cutting-edge technologies enable the creation of personalized video content that corresponds to learners' academic or professional areas, hence enhancing language acquisition in authentic scenarios. AI-powered systems that integrate speech recognition, natural language processing, and adaptive learning paths can help students effectively practice industry-specific terminology, communication skills, and vocabulary.

Recent research underscores the transformative impact of AI video services on ESP education. Studies by Chen & Zhang (2022) and Godwin-Jones (2021) highlight AI's role in enhancing comprehension, engagement, and instructional automation. Similarly, Li & Cummins (2022) and Wang & Luo (2021) demonstrate how AI-based video tools improve pronunciation, fluency, and real-time content adaptation, while Kruk & Peterson (2023) explore gamification's motivational benefits in business English courses. However, despite these advantages, challenges such as data privacy, ethical concerns, and accessibility remain significant barriers to widespread implementation.

The primary benefits of AI-powered video services are real-time content difficulty changes, progress tracking, and quick feedback. This dynamic approach bridges the gap between theoretical language training and practical application in professional settings, creating a stimulating and productive learning environment. Furthermore, AI tools can produce personalized learning materials, such as role-playing games, scenario-based simulations, and real-world case studies, which aid students in gaining language proficiency pertinent to their specialized fields. Integrating AI services into ESP training reduces instructors' labor dramatically by automating administrative tasks such as material preparation, evaluations, and feedback delivery. Furthermore, AI technologies enable teachers to create more engaging lectures by incorporating video annotation, automatic subtitling, and AI-generated tasks, resulting in a more immersive learning experience.

Despite these benefits, using AI video services requires careful consideration of ethical issues, data privacy concerns, and the digital divide. Equal access to AI-powered educational tools, as well as effective teacher preparation, remain essential issues to address. Furthermore, ongoing research and refinement of AI technologies are essential to ensure that they fulfill the specific needs of ESP learners in a variety of vocational domains.

In conclusion, AI video services represent a significant advancement in ESP education by delivering personalized, engaging, and adaptive learning experiences. Their incorporation into language training increases student motivation, speeds up language acquisition, and prepares students for real-world professional communication. As AI technologies progress, their impact on education will expand, paving the path for more effective and tailored English language learning solutions.

Key words: Artificial Intelligence, video services, language learning technology, English for Specific Purposes, interactive video content.

Відео-сервіси на основі штучного інтелекту з'явилися як трансформаційний інструмент у викладанні англійської мови для спеціальних цілей, забезпечуючи індивідуальний та інтерактивний підхід до навчання. Ці передові технології дозволяють створювати персоналізований відео-контент, який відповідає академічним і професійним сферам студентів, тим самим покращуючи засвоєння іноземної мови. Системи на базі штучного інтелекту, які об'єднують розпізнавання мовлення, обробку природної мови та адаптивні шляхи навчання, можуть допомогти студентам ефективно вивчати і практикувати галузеву термінологію, навички спілкування та словниковий запас.

Нещодавні дослідження підкреслюють трансформаційний вплив відео-сервісів штучного інтелекту на вивчення іноземної мови для спеціальних цілей. Сучасні дослідження підкреслюють роль штучного інтелекту в покращенні розуміння, взаємодії та автоматизації навчання; демонструють, як відео-інструменти на основі штучного інтелекту покращують вимову, плавність і адаптацію в реальному часі. Однак, незважаючи на ці переваги, такі проблеми, як конфіденційність даних, етичні проблеми та доступність, залишаються серйозними перешкодами для широкого впровадження.

Основними перевагами відео-сервісів на основі штучного інтелекту є зміна рівня складності навчального матеріалу в режимі реального часу, відстеження прогресу та швидкий зворотний зв'язок. Цей динамічний підхід усуває розрив між теоретичною підготовкою мови та практичним застосуванням у професійних умовах, створюючи стимулююче та продуктивне навчальне середовище. Крім того, інструменти штучного інтелекту можуть створювати персоналізовані навчальні матеріали, такі як рольові ігри, симуляції на основі сценаріїв і практичні приклади з реального життя, які допомагають студентам у вивченні іноземної мови.

Інтеграція служб штучного інтелекту в навчання англійської мови для спеціальних цілей значно полегшує роботу викладачів завдяки автоматизації адміністративних завдань, таких як підготовка матеріалів, оцінювання та надання зворотного зв'язку. Крім того, технології штучного інтелекту дозволяють викладачам створювати більш захоплюючі навчальні заняття, додаючи відео-анотації, автоматичні субтитри та завдання, створені штучним інтелектом.

Незважаючи на ці переваги, використання відео-сервісів штучного інтелекту вимагає ретельного розгляду етичних питань, проблем конфіденційності даних і цифрового розриву. Рівний доступ до освітніх інструментів на основі штучного інтелекту, а також ефективна підготовка викладачів залишаються важливими проблемами, які необхідно вирішити. Крім того, постійні дослідження та вдосконалення технологій

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штучного інтелекту мають важливе значення для того, щоб вони відповідали конкретним потребам студентів. Отже, відео-сервіси штучного інтелекту представляють значний прогрес у викладанні англійської мови для спеціальних цілей, надаючи персоналізований, цікавий і адаптивний досвід навчання. Їхнє включення в мовленнєву підготовку підвищує мотивацію студентів, прискорює засвоєння мови та готує студен-

тів до реального професійного спілкування. У міру розвитку технологій штучного інтелекту їхній вплив на освіту зростатиме, прокладаючи шлях до більш ефективних та індивідуальних рішень для вивчення англійської мови.

Ключові слова: штучний інтелект, відео-сервіси, технологія вивчення мови, англійська мова для спеціальних цілей, персоналізоване навчання, інтерактивний відео-контент.

Problem statement. Artificial intelligence (AI) video services become an efficient tool for teaching English for Specific Purposes (ESP). These technologies can create and execute tasks for personalized, interactive video content tailored to specific professional or academic fields. AI-powered video platforms may offer individualized courses, simulations, and real-world scenarios to help learners enhance language learning in specific purposes based on their needs and skill levels. These programs usually incorporate speech recognition, natural language processing, and personalized learning routes, allowing students to practice vocabulary, communication skills, and cultural nuances specific to their future specialty. Furthermore, AI video services may provide rapid feedback, track progress, and modify content difficulty in real-time, resulting in a more efficient and engaging learning environment for ESP students. As a result, teachers can provide more effective customized instruction that bridges the gap between language learning and practical application in professional settings.

Analysis of recent research and publications. Recent studies highlight the transformative impact of AI-driven video services on ESP education. Researchers Chen X. and Zhang Y. [3] emphasize how AI-powered video learning enhances comprehension and student engagement, particularly in technical and business English settings. Godwin-Jones R. [5] discusses the role of AI-enhanced multimedia in automating and personalizing ESP instruction, making language learning more adaptive to learners' needs. Several studies examine how AI-based video tools improve personalized learning experiences in ESP contexts. Thus, Li L. and Cummins P. [9] explore AI-powered video tutors that assist learners in improving pronunciation and fluency, particularly for professional communication. Similarly, Wang Y. and Luo Y. [11] investigate AI-assisted video annotation, which helps students in technical English courses by providing real-time feedback and tailored content.

AI-generated video content significantly enhances student engagement, as demonstrated by Yang X. and Chen H. [12]. Their findings suggest that AI-generated audiovisual materials increase ESP trainees' listening skills and comprehension. Similarly, Kruk M. and Peterson M. [8] investigate how AI-powered gamification components in video services improve motivation in business English classes.

The educational implications of AI video services in ESP have been extensively studied. Luckin R., Holmes W., Griffiths M., and Forcier L.B. [10] state that artificial intelligence can design adaptive learning environments tailored to certain professional domains such as law, medicine, and engineering. Meanwhile, Dudeney G., Hockly N., and Pegrum M. [4] underscore the necessity of digital literacy in harnessing AI for ESP instruction, emphasizing the requirement for teacher training to fully realize AI's promise. Despite the benefits, there are hurdles to adopting AI video services in ESP. Various scholars have highlighted issues such as data privacy, ethical implications, and the digital divide. Godwin-Jones R. [5] and Wang Y. and Luo Y. [11] suggest that future research should focus on developing AI systems that are more accessible, culturally adaptable, and aligned with ESP learners' specific needs.

Aim of the research. The purpose of the article is to analyze the didactic capabilities of the existing artificial intelligence video services in English language teaching and studying.

Results and discussion. In recent years, the rapid growth of artificial intelligence has shaken society both economically and culturally. It would seem that this rapidly evolving technology should be as ubiquitous as email or messengers, changing many aspects of everyday life, including how the educational process takes place [6; 7].

In October 2023, Forbes surveyed 500 practicing educators from across the United States about their experiences with AI in the classroom. Because the respondents represent teachers at all stages of their careers, the results provide a snapshot of how artificial intelligence is impacting education [2].

The rapid growth of AI in education is evidence of its potential, to transform teaching and learning processes into more effective, exciting, and adapted experiences. As artificial intelligence continues to develop, it will play a crucial role in shaping the future of education, helping teachers and students reach their full potential [1]. Currently, its development is on the rise and is based on the application of results already achieved in other fields of science, industry, business, and even everyday life.

The integration of AI technologies into education is currently being studied quite extensively. At this stage, it is difficult to understand how artificial intelligence will affect important issues of ethics, fairness,

and data security. However, several key ways in which AI can be used in education can be identified, including the following:

- AI-powered educational games. Educators have long recognized the value of gamified learning. Modern AI-powered games can provide targeted learning through user-adaptive programming.

- Adaptive learning platforms. Adaptive platforms exist that adjust learning activities and content in real-time. Continuous assessment allows for immediate feedback and helps the system adjust its approach. Adaptive learning methodologies range from simple rule-based systems to complex machine-learning algorithms.

- Automated assessment and feedback systems. By automating assessment, planning, and administrative work, AI systems can free up teachers' time and energy for more interaction with students. This is a common argument in favor of using AI.

- Chatbots for Student Support. In many higher education institutions, university chatbots support students by answering admissions inquiries, connecting students to course information and student services, and delivering reminders. Other chatbots can help students brainstorm ideas, improve their writing skills, and optimize their study time.

- Intelligent Learning Systems. Often focused on a single subject, such as math or language, intelligent tutoring systems mimic the one-on-one experience of working with a tutor (e.g., Duolingo).

However, implementing AI services into the educational process requires careful study, refinement, consideration, and mastery of the artificial intelligence use case by those who make decisions that affect education and those who work in the field of education.

It should be stated that the main advantage of artificial intelligence in teaching English is the fact that this group of technologies enhances the adaptability of the English language teaching process and has a strong impact on increasing students' motivation to learn English. It is important to emphasize that artificial intelligence also takes into account the cognitive style of each student. In addition, this group of technologies significantly reduces the time spent by English teachers on preparing for classes. Separately, it is necessary to dwell on such a moment as the personalization of the didactic environment. Artificial intelligence provides comfortable conditions for learning English by students, and at the same time forming a positive value attitude towards learning English. As a result of these processes, prerequisites are formed for increasing the effectiveness of English language teaching: the results of English language acquisition are significantly higher than the original ones, which were observed at the initial level of training. Increasing the level of motivation to learn English requires the involvement of students through the use of personally

significant content, the development of which requires significant time. It is the artificial intelligence that successfully solves such problems, creating plot didactic stories with characters in a short time. Students often have difficulty learning vocabulary from textbooks. Such problems cannot be avoided when using traditional textbooks. With the help of artificial intelligence, it is possible to create didactic tasks for teaching English in a short time.

When researching AI environments, they can be grouped into different types of functions, related to a specific educational aspect. In this paper, the study of services is based on the application of AI services in professional English language learning. We propose to consider the following groups of services and cases created using these services used in the study:

- text AI services;

- AI services for working with video;

- AI services for working with pictures, diagrams, and charts;

- AI services for creating tests and tools for controlling students' knowledge.

Let us make a short overview of AI platforms that can be used for video content for study purposes.

To generate videos, we used the InVideo AI service. It creates videos on the specified topic and clarifies questions well. The video content is interesting and modern. The free version of InVideo AI offers 10 minutes per week of AI generation, 10 GB of storage, 4 exports per week with the InVideo logo, 2.5 million + standard media. The paid version offers 50 minutes per month of AI generation, 80/month iStock, 100 GB of storage, unlimited video exports, and 2 voice clones. The function under study is creation the video on the specified topic. In the free version of this service, it is possible to create and upload videos, but the name of the service will be indicated on the screen. In the paid version the playback quality is higher, the generated video is publicly available. An actual result can be found on the following link <https://ai.invideo.io/watch/FYeZYU74yJ>.

To create the video annotation can be used service [Summarize.tech](https://summarize.tech). The function under study was video summarization. This service is partially free. The task was to summarize what was seen. The service produced a fairly good quality of text summarization. It is possible to upload a link to a video and get video annotations (minimum 2) without registering. The free version of Summarize.tech has a daily limit on the number of videos per day. Summarize.tech Premium (paid version) has no daily limits, and allows you to summarize up to 200 videos per month. It costs \$10 per month.

Zeemo is a platform that can be used to translate and generate subtitles for videos in different languages. The prompt was to translate subtitles into Ukrainian. Zeemo created subtitles in Ukrainian quickly, but it requires editing. Videos in the free

version are stored for 3 days. You can download the video, or a link to the video. The paid version costs \$6.67 per month.

To create various tasks for the video, Twee can be used. With a wide range of features, Twee AI allows teachers to create engaging and dynamic lessons, saving valuable time and effort. This service helps teachers create questions, dialogues, stories, letters, articles, multiple choice questions, true/false statements in just a few seconds on any topic and for any grade level, giving teachers a wide range of materials to use in their lessons. Twee easily generates discussion questions or finds facts and quotes from famous people related to the topic you need. It can analyze vocabulary related to a specific topic and create gap-filling and bracket-expanding exercises to help students practice their language skills. Twee's AI can generate questions for any YouTube video in just a few seconds, making it easy to incorporate video content into lessons. Researching function was to create questions for the video, creating exercises, and a test. The actual result of task completion can be found at the following link: <https://app.twee.com/projects/f4c8c672-710a-4274-a54f-9185a0f74f5f>.

To create a test based on videos, the Edpuzzle service can be used. Edpuzzle is a free service that allows you to create video-based learning materials in minutes. Edpuzzle helps to create open-ended or multiple-choice questions, and tests, creates a table of results for evaluating student answers. If the video is large, it can be cropped. The researching function was the creation of questions for videos, and tests for videos can be found under the following link: <https://edpuzzle.com/media/644510c5035abf42fb73ae5a>.

The Checksub service was chosen to create text based on videos. It is an artificial intelligence tool designed to create subtitles and translate videos. The research function was text creation and transcription. The actual result can be found under the following links: <https://www.youtube.com/watch?v=0lab8NZGqKY> (video); <https://download.checksub.com/download?videoUrl=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3D0lab8NZGqKY>. Checksub converts video to text in TXT and SRT formats quite quickly. The service is easy to use, and the converted text can be downloaded and copied.

Based on the analysis of four video AI services (InVideo AI, Summarize.tech, Zeemo, Twee, Edpuzzle, Checksub), we can state that each of these services performs different functions (video generation, creation, translation, and editing of subtitles (can be used as text), summarization, development of part of the educational material on the topic (creation of questions for the video, exercises, test), which are useful in the activities of a teacher. InVideo AI creates a video on a specified topic and clarifies questions. The video content turns out to be interesting and corresponds to the specified topic and the goals set.

When there is text, but it is difficult to find a video on the topic (text), this service will come in handy. Summarize.tech summarizes long YouTube videos in a matter of seconds. The service uses a large language model to create a summary of the video, including main points, key conclusions, and time stamps. This makes it easy to quickly understand the content of the video without having to watch everything. Zeemo translates subtitles into different languages, creating new ones in the selected language with the ability to further edit the created subtitles. Twee creates various types of tasks for videos and not only for videos and is a powerful tool in creating a variety of interesting lessons. Edpuzzle helps for creating tests for videos and simplifies the teacher's work by creating a table of results of assessing student answers. In general, all these services complement each other and are extremely interesting and useful in developing and creating educational material.

Conclusions and directions for further research in the area. The research on AI services conducted within the framework of this article has shown that the mentioned AI environments are extremely useful and powerful assistants for English teachers. They simplify the processes of creating educational material, which has a significant impact on the fruitfulness of teaching activities and improves the quality of the educational process.

The use of AI environments in teaching English for professional purposes contributes to the productivity of the educational process by creating conditions that attract students and increase their motivation to learn the language and their future profession.

AI video services have a profound impact on ESP education, offering personalized, engaging, and adaptive learning experiences. However, for effective integration, there is a need for continuous research on pedagogical strategies, ethical considerations, and technological advancements. Future studies should explore how AI-driven video services can be optimized to enhance ESP instruction across various professional disciplines.

The rapid growth of AI in education is evidence of its potential, transforming teaching and learning processes into more effective, exciting, and adapted experiences. As artificial intelligence continues to develop, it will play a crucial role in shaping the future of education, helping teachers and students reach their full potential.

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