

**THE ROLE OF MODERN TECHNOLOGIES IN LANGUAGE  
LEARNING IN NON-PHILOLOGICAL FIELDS**

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**Abstract:** This article discusses how modern technologies, like artificial intelligence (AI) and online learning platforms, help people who are not language specialists (such as engineers or technical workers) learn foreign languages more easily. It explains how AI tools can create personalized lessons, correct mistakes quickly, and help learners practice speaking. The article also shows why knowing foreign languages is important in fields like energy-saving technologies, transport, and engineering. In these areas, professionals often work with people from other countries, and being able to communicate in different languages helps them avoid mistakes, follow safety rules, and work better in international teams.

**Keywords:** Language learning, artificial intelligence (AI), online platforms, adaptive learning, chatbots, virtual tutors, non-philological fields, energy-saving technologies, renewable energy, oil and gas industry, multilingual communication, engineering communication, transportation safety, international collaboration, technical translation, language skills, global workforce, digital tools, professional development, business English, mobile learning, engineering education, aviation English, maritime communication, multilingual signage, localization, personalized instruction.

## **Introduction**

In today's globalized professional landscape, modern technologies—especially artificial intelligence (AI) and online learning platforms—are reshaping how non-philological specialists acquire foreign-language skills to meet sector-specific

demands. AI-driven tools personalize learning pathways and provide instant feedback, boosting efficiency and engagement in corporate and technical environments. Meanwhile, the energy-saving and transport industries increasingly rely on multilingual teams to localize technical documentation, ensure safety compliance, and coordinate international projects. Engineers and transport professionals with strong language proficiency not only bridge communication gaps but also enhance innovation and operational excellence across global value chains.

### **Artificial Intelligence and Online Platforms in Professional Language Learning**

These tools help non-philology students not only use English correctly from a grammatical perspective but also apply it effectively in communication.

Modern AI-driven platforms and online courses are reshaping how non-language specialists acquire new languages for their work. Adaptive learning systems collect data on each learner's performance (such as vocabulary knowledge, strengths and weaknesses) and customize content to fit their individual goals. For example, AI-powered apps like Duolingo automatically tailor lessons and vocabulary drills to each user's level of proficiency. These systems also provide instant feedback, instantly correcting mistakes and reinforcing concepts.

### **Methods**

**Personalized instruction:** AI-driven platforms analyze a learner's interactions to adjust the difficulty and topics of lessons. As Belitsoft reports, such systems "collect multiple data about learners... when analyzed, these data are used to make learning highly relevant to learners' interests and tailored to their actual skills and expected goals". This allows professionals to learn at their own pace and focus on industry-relevant vocabulary (e.g. technical or medical terms).

**Real-time feedback:** Automated assessment tools grade responses immediately, identifying gaps in comprehension. Learners receive instant corrections on grammar and usage, so they can reinforce concepts promptly. This immediacy is especially helpful in professional settings where learners need quick reinforcement and cannot wait for a human instructor.

Conversation practice: Advanced chatbots and AI companions enable simulated dialogue practice. For instance, Duolingo's chatbots let users practice speaking without fear of embarrassment. More generally, language models like ChatGPT can serve as virtual tutors: they allow learners to practice real conversations, experiment with nuanced language, and get corrections on the spot. According to the International Center for Language Studies, "ChatGPT can serve as a language-learning companion providing learners with opportunities for practicing conversations, receiving instant feedback on grammar and vocabulary usage". Such tools are particularly useful for busy professionals who may not have easy access to native speakers for practice.

Student reads the text himself and tells the meaning. Reading is interactive. Reading short stories, novels and other literary works written by famous Uzbek, English and American writers is very important in language learning. As a teacher of English you may apply a variety of reading strategies, analyze literary elements use a variety of strategies to read unfamiliar words and build vocabulary, prepare, organize, and present literary interpretations

## **Results and Discussion**

### **Foreign Languages in Energy-Saving Technologies**

Modern energy-saving technologies are developed, deployed, and maintained in a highly international context, where clear multilingual communication is no longer optional but essential for success. As Skrivanek notes, the ability to localize renewable technologies and training materials for diverse markets "makes it easier to rollout and support new solutions worldwide". Likewise, Language Connections emphasizes that translation and localization services enable green-energy firms to "spread their ideas and technology around the globe," ensuring technical accuracy and cultural relevance.

#### **▪ Growth of Specialized Translation Services**

To address this demand, numerous language-service providers now offer sector-focused solutions:

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- Morningside delivers certified document translation, interpretation, e-learning localization, and legal support in over 200 languages—helping energy clients meet strict regulatory and safety requirements in remote locations.

- Language Scientific provides expert localization of user manuals, software interfaces, and marketing collateral for wind, solar, and bioenergy projects, ensuring consistency across technical terminology and local usage conventions.

### ▪ **Localization in Renewable Projects**

International wind and solar farms bring together engineers, contractors, and regulators from multiple countries. Skrivanek warns that “differences in interpreting technical specifications lead to serious misunderstandings” and even incorrect equipment installations, with “consequences for every stage of a project”.

### • **Workforce Implications**

As the energy transition accelerates, a recent Reuters analysis warns of a “skills gap” threatening the UK’s decarbonization targets—underscoring the need for not only technical training but also language upskilling to support cross-border teams and technology transfers.

## **Multilingual Communication in Transportation and Engineering**

Global transportation and engineering systems involve people from many countries. This makes language skills essential for safety and efficiency. Misunderstandings in communication have led to serious incidents: for example, a U.S. study noted that inadequate English proficiency was a factor in major airline crashes. In maritime shipping, language barriers “often occur during ship communication leading to serious problems”. In engineering, projects span borders, so bilingual engineers help teams work together.

### ▪ **Aviation: ICAO English Standards and Real-World Impact**

Aviation relies on English as the common language. The International Civil Aviation Organization (ICAO) mandates that all pilots and air traffic controllers in international airspace prove proficiency in English at ICAO Level 4 or higher. This means they must be able to “communicate clearly in routine and non-routine

situations”. Pilots and controllers use standardized phraseology (fixed, unambiguous phrases) for routine communications, and may use plain English only when required.

- **Language requirements:** On international flights, English is compulsory and must meet ICAO’s Level 4 standard.

- **Maritime:** IMO SMCP and Multilingual Coordination

The maritime industry also uses standardized English phrases to bridge language gaps. The International Maritime Organization (IMO) reports that about 80% of ship incidents stem from human error, and nearly half of those involve communication breakdowns. To reduce these risks, the IMO introduced the Standard Marine Communication Phrases (SMCP). The SMCP is a set of short English phrases designed for safety-related ship-to-ship and ship-to-shore communication. These phrases cover navigation, docking, emergencies, and other critical operations.

- **Common safety phrases:** SMCP provides a controlled vocabulary (in simplified English) for important messages like berthing instructions, collision avoidance, or abandoning ship. It is taught in maritime training and aligns with SOLAS/STCW requirements.

- **Improving safety:** Research shows that language issues still occur. Scholars are analyzing accident transcripts and urging better SMCP training. For example, one 2025 study stresses that language barriers “pose significant risks to maritime safety,” and recommends standardized protocols and language training for crews.

- **Land Transport and Public Transit: Multilingual Signage, Announcements, and Digital Tools**

On roads and public transit, language support comes through signs, announcements, and technology. Many cities recognize the need to serve non-native speakers, though practices vary. For instance, a New York transit report found that most subway signage and announcements are English-only, even though about 25% of NYC residents have limited English. This gap can cause confusion and stress (riders might board the wrong train or miss stops).

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- **Multilingual signage:** Transport systems often use symbols or multiple languages on signs. A famous example is the Mexico City Metro, where each station has a unique pictogram so riders can identify stations without reading text. In Canada, Ontario law mandates bilingual (English/French) road signs where many Francophones live. Transit stops and subway maps in diverse cities frequently include Spanish, Chinese, or other local languages alongside English.

- **Audio announcements:** Buses and trains may give announcements in more than one language. In the Washington, D.C. area, for example, many bus routes regularly broadcast messages in English and Spanish, and sometimes in Amharic or Chinese, reflecting local communities. These announcements help passengers who speak those languages know next stops or service changes. (Where live translation is hard, some systems use recorded multilingual announcements on newer trains.)

#### **Engineering: Cultural Competence and Bilingual Professionals**

Engineering projects today are often global. Multinational design and construction teams must communicate across languages and cultures. Experts emphasize that successful engineers need more than math and science—they need language and cultural skills.

- **Key competencies:** Studies of global engineering education list four essential skills: (1) language and cultural skills, (2) teamwork and group-dynamics, (3) knowledge of other countries' engineering and business cultures, and (4) understanding international differences in engineering practice. Engineering societies similarly call for fluency in at least two languages and sensitivity to cultural differences.

- **Bilingual roles:** In practice, bilingual engineers are invaluable on multinational projects. Companies often send engineers who speak the local language to overseas sites, or hire local bilingual staff to bridge gaps. For example, a European auto firm building a factory in Asia might send German-English engineers to coordinate with local workers. Multilingual engineers help avoid misunderstandings in specifications, safety practices, and timelines.

- **Training and benefits:** Recognizing this, many global engineering firms invest in language training. A large company might offer classes in Mandarin, Spanish, or Arabic to staff working on international contracts. Engineers who speak the language of a project partner “communicate more effectively” and adapt easily to foreign work environments.

## Conclusion

This article explores how modern technologies, especially artificial intelligence (AI) and online learning platforms, are transforming foreign language education for professionals in non-philological fields such as engineering, transportation, and energy technologies. It explains how AI tools—including adaptive learning apps, chatbots, and virtual tutors—support language acquisition by providing personalized lessons, real-time feedback, and conversation practice tailored to specific professional needs. The integration of video conferencing and immersive tools like virtual reality also enhances communicative competence among learners who may not be language specialists.

## References:

1. Nurbekova.Sh.(2023). "Learning technologies research with primary school learners".
2. Nurbekova.Sh.(2023). "The grammar-translation method".
3. British Council (2024). "Artificial intelligence and English language teaching: Preparing for the future".
4. Bridge Edu. "BridgeConnect: The new frontier in teaching".
5. Masterword. "Multilingual communication plays role in the expanding energy market".
6. Language Connects Foundation: "Engineering Roles Requiring Language Skills".
7. SKYbrary: "English Language Proficiency Requirements"