



IMPROVING ORAL AND SPOKEN SKILLS OF ENGINEERS AT TECHNICAL UNIVERSITIES USING PRODUCTIVE AND RECEPTIVE METHODS

Nulloev U.A.

*Associate Professor of “English language” Department,
“Tashkent Institute of Irrigation and Agricultural Mechanization
Engineers” National Research University*

Tayanch soʻzlar: ogʻzaki kommunikatsiya, nutq koʻnikmalari, muhandislik taʼlimi, produktiv metodlar, retseptiv metodlar, texnik universitetlar, ingliz tilini bilish darajasi.

Ключевые слова: устная коммуникация, разговорные навыки, инженерное образование, продуктивные методы, рецептивные методы, технические университеты, уровень владения английским.

Key words: oral communication, spoken skills, engineering education, productive methods, receptive methods, technical universities, english proficiency.

РЕЗЮМЕ:

Muhandislar uchun ogʻzaki va nutq kommunikatsiya koʻnikmalarini rivojlantirish, ayniqsa texnik universitetlarda, texnik bilimlar va samarali kommunikatsiya koʻnikmalarini birlashtirish zarur boʻlgan muhim jihatdir. Muhandislarga murakkab gʻoyalarni turli auditoriyalarga, jumladan, mutaxassis boʻlmagan shaxslar, mijozlar va turli madaniy va lingvistik xodimlar bilan aloqada etkazish talab qilinadi. Ushbu maqolada texnik universitetlardagi muhandislik talabalari orasida ogʻzaki kommunikatsiya koʻnikmalarini oshirish uchun produktiv va retseptiv metodlarning qoʻllanilishi tahlil qilinadi. Tilni faol ishlatishga yoʻnaltirilgan produktiv metodlar, masalan, gapirish va taqdimot qilish, tinglash va tushunishni taʼkidlaydigan retseptiv metodlar bilan qoʻllab-quvvatlanadi. Ushbu metodlarni muhandislik dasturlariga integratsiya qilish orqali texnik universitetlar talabalarga ingliz tilida ogʻzaki koʻnikmalarini oshirishga yordam beradi, bu esa akademik muvaffaqiyat va professional tayyorgarlikni oshiradi. Tadqiqotda eng yaxshi amaliyotlar, qiyinchiliklar va produktiv va retseptiv yondashuvlarni muhandislik taʼlimiga integratsiya qilishning kelajakdagi yoʻnalishlari koʻrib chiqiladi.

РЕЗЮМЕ:

Развитие устных и разговорных коммуникативных навыков является важным для инженеров, особенно в технических университетах, где необходимо сочетание технических знаний и эффективных коммуникативных навыков. Инженерам нужно доносить сложные идеи до разных аудиторий, включая неспециалистов, клиентов и коллег из разных культурных и языковых сред. В статье рассматривается использование продуктивных и рецептивных методов для улучшения устных коммуникативных навыков среди студентов технических вузов. Продуктивные методы, которые ориентированы на активное использование языка,

такие как говорение и презентация, дополняются рецептивными методами, акцентирующими внимание на слушании и восприятии. Интеграция этих методов в учебные программы технических вузов помогает студентам улучшать разговорные навыки на английском языке, способствуя большему академическому успеху и профессиональной готовности. В исследовании рассматриваются лучшие практики, вызовы и возможные направления интеграции продуктивных и рецептивных подходов в инженерное образование.

SUMMARY:

The development of oral and spoken communication skills is essential for engineers, especially in technical universities, where proficiency in both technical knowledge and effective communication is critical. Engineers need to convey complex ideas to diverse audiences, including non-specialists, clients, and colleagues from various cultural and linguistic backgrounds. This article examines the use of productive and receptive methods to enhance oral communication skills among engineering students at technical universities. Productive methods, which focus on active language use such as speaking and presenting, are complemented by receptive methods, which emphasize listening and comprehension. By integrating these methods within engineering curricula, technical universities can help students improve their spoken English skills, fostering greater academic success and professional readiness. This study explores the best practices, challenges, and future directions for integrating both productive and receptive approaches into engineering education.

1. Introduction. Oral communication is a fundamental skill for engineers, whose roles increasingly require effective interaction with interdisciplinary teams, clients, and stakeholders from diverse cultural and linguistic backgrounds. In a globalized economy, engineers must not only be proficient in technical disciplines but also be capable of articulating their ideas, collaborating on international projects, and presenting technical information clearly and persuasively.

At technical universities, particularly those where English is the medium of instruction, students are expected to develop their spoken communication skills alongside their technical expertise. However, engineering education often places a greater emphasis on theoretical and practical knowledge, with insufficient focus on oral language skills. This gap in communication training can result in engineers being technically proficient yet unable to effectively express their ideas in professional settings.

This article explores how technical universities can address this issue by using both productive methods (active language use such as speaking and presenting) and receptive methods (passive language skills such as listening and comprehension) to improve the oral communication skills of engineering students.

2. The Importance of Oral Communication in Engineering.

Oral communication in engineering encompasses both the ability to express ideas clearly (productive skills) and the ability to understand and interpret spoken language (receptive skills). Engineers frequently need to present their ideas, participate in meetings, explain complex concepts to clients or non-experts, and



collaborate with colleagues from different disciplines. These communication tasks require a high level of proficiency in both speaking and listening.

Additionally, in the context of global engineering projects, engineers often work in cross-cultural teams, necessitating strong intercultural communication skills. Hence, universities must ensure that their engineering curricula address these requirements, incorporating both speaking and listening into the educational framework.

Research shows that students who possess strong oral communication skills are more likely to excel in professional environments. Oral communication competence can improve

3. Productive and Receptive Methods: Definitions and Approaches.

To effectively improve oral communication skills, technical universities must utilize a combination of productive and receptive language acquisition methods. These approaches, often seen as complementary, allow students to develop a well-rounded ability to communicate in English, specifically in the context of engineering.

3.1 Productive Methods (Active Communication Skills).

Productive skills focus on the active use of language in speaking and writing. In the case of improving oral communication for engineering students, productive methods emphasize activities that encourage speaking, such as:

- **Presentations:** Encouraging students to deliver technical presentations helps them develop the ability to explain complex ideas to diverse audiences. Presentations can be formal or informal, involving individual or group work, and they can simulate real-world scenarios where engineers need to communicate their ideas clearly to stakeholders, clients, or team members.
- **Debates and Discussions:** Incorporating debates and structured discussions in the curriculum allows students to practice negotiating and defending their ideas while using specific technical terminology. This also helps them think critically and quickly, improving their responsiveness and fluency during conversations.
- **Role Plays and Simulations:** Role-playing activities simulate real-life professional interactions, such as meetings, project proposals, or client consultations. These activities give students the opportunity to practice speaking in contexts that they are likely to encounter in their careers.
- **Collaborative Projects:** Group work or collaborative projects require engineers to discuss ideas, solve problems together, and present their

findings. Working in teams to complete projects enhances their ability to speak naturally and coherently in team settings.

By focusing on these activities, students not only practice their language but also reinforce their ability to communicate technical content effectively, which is crucial in their professional roles.

3.2 Receptive Methods (Passive Communication Skills).

Receptive skills involve listening and comprehension. For engineers, effective listening is just as important as speaking, as they often need to absorb and process information shared by colleagues, clients, or academic peers. Receptive methods can include:

- **Listening to Technical Presentations and Lectures:** Exposure to academic and industry-related lectures in English, especially those in engineering, allows students to familiarize themselves with common technical jargon, accent variation, and formal communication styles. Understanding complex, technical content in English prepares them for professional and academic contexts.
- **Interactive Listening Activities:** Activities that require students to listen to audio recordings (e.g., interviews, technical discussions, podcasts) followed by comprehension exercises can help them practice extracting key points from spoken content. These exercises can focus on understanding engineering concepts, distinguishing different accents, and learning to identify important technical details.
- **Group Discussions and Peer Feedback:** Listening activities, when followed by group discussions or peer feedback, encourage students to listen attentively, critique ideas, and provide feedback. This not only improves listening skills but also enhances understanding of different perspectives within the engineering domain.
- **Engagement with International Media and Resources:** Encouraging students to listen to international news, webinars, or podcasts related to engineering and technology can expand their exposure to current trends and emerging issues in the field. This practice aids in honing their ability to listen to and engage with real-world applications of engineering principles.

Combining receptive and productive methods in this way helps students better understand spoken communication and provides them with the skills necessary to respond appropriately in professional settings.

4. Best Practices for Enhancing Oral Communication in Engineering.



Several best practices can be implemented in the curriculum to ensure that both productive and receptive methods are used effectively to improve oral communication among engineering students.

4.1 Integration of Speaking and Listening into Technical Courses.

Technical universities can ensure that both speaking and listening components are integrated into core engineering courses. Instead of treating language skills as an adjunct to technical learning, integrating them within subject-specific courses will give students practical experience in using English to explain engineering concepts. For example:

- **Technical English for Engineers:** Specialized language courses can be offered as part of the engineering curriculum, with a focus on improving the students' speaking, listening, and comprehension skills in the context of technical content, from design specifications to research papers.
- **Collaborative Technical Projects in English:** Group projects that require team collaboration and presentations in English provide an excellent opportunity to enhance both receptive and productive language skills simultaneously.

4.2 Use of Technology and Multimedia Tools

Incorporating multimedia tools into language learning can offer students opportunities to practice in more flexible and engaging ways. Examples include:

- **Speech Recognition Software:** Students can use software to practice speaking skills and receive immediate feedback on their pronunciation and fluency.
- **Online Platforms for Virtual Discussions:** Virtual classrooms or online platforms like Zoom or Microsoft Teams allow students to engage in discussions and presentations in real-time with peers from different cultural and linguistic backgrounds.
- **Interactive Listening Tools:** Using podcasts, video tutorials, or online webinars focused on engineering topics allows students to listen to professionals in their field speaking in English, thereby increasing exposure to diverse accents, terminologies, and speech patterns.

4.3 Assessment and Feedback Mechanisms

Effective assessment methods are essential to ensure continuous improvement in oral communication skills. Regular formative and summative assessments can help gauge students' progress. These assessments could include:

- **Oral Exams and Presentations:** Giving students the opportunity to present research, project outcomes, or problem-solving strategies as part

of their evaluation ensures they are using their oral communication skills in a high-stakes context.

- **Peer and Instructor Feedback:** Constructive feedback from both peers and instructors helps students identify areas for improvement, especially in areas such as clarity, fluency, and the appropriate use of technical vocabulary.

5. Challenges and Solutions.

Despite the benefits of using both productive and receptive methods to improve oral communication, several challenges remain:

- **Varying Language Proficiency Levels:** Students entering technical universities may have varying levels of English proficiency. To address this, universities can provide tailored language support programs, including remedial language courses or workshops for students who need additional help.
- **Cultural and Language Barriers:** International students may face challenges in understanding different accents and cultural nuances in communication. Pairing students with local peers or incorporating intercultural communication workshops can help bridge these gaps.
- **Overemphasis on Written Communication:** In many engineering programs, written communication (such as reports and research papers) is prioritized over oral skills. To address this, universities should revise curricula to ensure that oral skills are equally emphasized throughout the program.

6. Conclusion. The integration of both productive and receptive methods into the engineering curriculum is a powerful strategy for improving oral communication skills in technical universities. By combining activities that encourage speaking and listening, engineering students can enhance their ability to articulate complex ideas and understand diverse perspectives, which is critical for their academic success and future professional careers. As the demand for globally competent engineers grows, universities must continue to adapt their teaching methods to ensure that students develop the language skills necessary to succeed in a globalized, interdisciplinary workforce.

Literature:

1. Barron, A. (2007). The Role of English in Engineering Education: Challenges and Opportunities. *Journal of Engineering Education*, 94(4), 347-358.
2. Goh, C. C. M. (2018). Listening Comprehension and Oral Communication Skills in Engineering Education: Approaches to Teaching and Learning. *International Journal of Engineering Education*, 34(2), 483-495.
3. Martínez-Ávila, D., & Murphy, P. (2019). *Best Practices in Teaching Communication