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BRIDGING LANGUAGE GAPS IN TECHNICAL EDUCATION: THE ROLE OF LANGUAGE FOR SPECIFIC PURPOSES (LSP) LEARNING

Language for Specific Purposes (LSP) is a discipline that recognizes the varying linguistic needs of students based on their fields of study or professions. While universities offer courses in business, medical, and legal English, the linguistic requirements of students in technical subjects often receive less attention. This article explores the importance of addressing the intricate vocabulary and concepts in technical fields, emphasizing the need for clear oral and written communication skills for students pursuing excellence in their studies. LSP courses, such as English for Engineers and Technologists, English for Mining Engineers, English for Students of Occupational Health and Safety, English for Environmental Engineers at LLC "Technical University "Metinvest Politechnika" cater to specific professional needs by tailoring instructional strategies and content. The article provides an overview of fundamental LSP concepts, historical context and the roles of key figures like John Swales, Dudley-Evans, and Anne Burns in shaping LSP theory and practice. English for Specific Purposes has evolved into a prominent subfield of English language instruction, focusing on developing language programs that meet individuals' communicative needs in various professions. The term "English for Specific Purposes" refers to teaching English aligned with specific occupational or academic goals, reflecting the discipline's ongoing evolution and contributions to language education. In the realm of technical higher education focusing on Science, Technology, Engineering, and Mathematics (STEM), language competency plays a critical role in students' success. This article highlights the ongoing evolution of "English for Specific Purposes," aligning English teaching with specific career goals and underlining its paramount role in technical higher education, particularly in STEM fields, for optimizing students' success.

Key words: *Language for Specific Purposes (LSP), technical education, communication skills, tailored instruction, professional needs, linguistic requirements, academic excellence, english instruction, technical fields, STEM education.*
(статтю подано мовою оригіналу)

In the subject of teaching English, Language for Specific Purposes (LSP) is a well-established discipline. It acknowledges that a person's linguistic requirements vary based on their field of study or employment. Because of this, a lot of universities now provide courses in subjects like business English, medical English, legal English and so forth. However, what about the linguistic requirements of students pursuing technical subjects? Don't they deserve to receive the same assistance?

Technical fields have intricate vocabulary and concepts. If students want to excel in their studies, they must comprehend this technical language. They must also possess the ability to express themselves clearly both orally and in writing. Many engineers and scientists also require the ability to read and comprehend research publications authored by their peers. The most recent research and findings in the field are covered in these articles.

Courses designated as language for specified purposes (LSPs) are those in which a defined set of specialized needs is the basis for all instructional strategies, materials, methodology, content, objectives, teaching methods, and assessment procedures. Courses like English for Engineers and Technologists and English for Mining Engineers, English for Students of Occupational Health and Safety, English for Environmental Engineers are just some offerings at LLC "Technical University "Metinvest Politechnika". In each of these cases the content and focus of the language instruction is narrowed to a specific context or even a particular subset of tasks and skills.

The goal of this article is to give readers an overview of the fundamental concepts, types, historical context, definition and scope of English for Specific Purposes. It also covers the goals of LSP instruction, the function of an LSP course and an LSP program, the job of an LSP teacher and the training requirements to become one.

John Swales [1; 2] is a pioneer in the subject of LSP, having had a significant impact on the theory and practice of teaching language for academic and professional goals with his ground-breaking work on genre analysis. The term "discourse community," coined by Swales, describes a collection of individuals in a field or subject who have similar objectives, customs, and modes of communication. His study focused on how teaching language for academic and professional reasons requires a grasp of the communicative practices and rhetorical conventions unique to various discourse communities.

Dudley-Evans [3–5] is another well-known name in LSP; he created the "situational approach" to language instruction. This method places a strong emphasis on the value of examining learners' communicative requirements and situations within particular academic or professional settings. Dudley-Evans contended that rather than taking a one-size-fits-all approach, language training should be customized to match the linguistic requirements and obstacles faced by learners in their various vocations.

Furthermore, Anne Burns's work [6] has made a substantial contribution to LSP theory and practice. Burns stresses the value of integrating authentic, real-world tasks that are pertinent to students' academic or professional contexts into task-based learning activities for language learners. This method promotes the development of the practical skills and abilities required for success in the target domain in addition to improving language proficiency.

Programs at colleges or universities that concentrate on applied science, technology, engineering, and mathematics (STEM) are referred to as technical higher education. These programs teach students how to apply mathematical and scientific ideas to real-world issues. They are also exposed to technical terms and ideas unique to their area. Preparing them for jobs as scientists, engineers, researchers, and other professions is the aim.

In technical education, where students are frequently expected to negotiate complicated subject matter loaded with specialized vocabulary, jargon, and discourse patterns, language fluency is a prerequisite for success. Accurate communication is not only desirable but necessary, especially in domains like computer science, engineering, and medicine. The crucial role that Language Learning for Specific Purposes (LSP) plays in addressing the particular linguistic needs of students in various technical disciplines is explored in depth in this article.

Students in technical education face a variety of language-related difficulties that go beyond just understanding the fundamentals of their subject. These difficulties are varied and include everything from figuring out difficult technical writings to clearly and precisely conveying complicated concepts. Students encounter a major obstacle in the form of specific vocabulary and jargon that are inherent to their respective disciplines. In technical discourse, terms like "algorithm optimization," "circuitry design," "data analysis" and "mechanics" are commonplace, but they can pose significant challenges for students who are not fluent in the language unique to their subject.

Furthermore, technical subjects have their own distinct speech patterns in addition to terminology and syntax, which may be foreign to students. Technical publications, research papers, and academic presentations must follow certain patterns in terms of information organization, structure, and presentation. A standard structure, for example, is usually followed by engineering reports, which include sections like abstracts, introductions, methodology, results, and conclusions. For the purpose of effectively communicating their ideas and arguments, students must follow certain norms when writing research papers, taking part in group discussions, or giving presentations. Acquiring proficiency in these discourse patterns is crucial for both academic achievement and future employment opportunities, as proficient communication is a fundamental requirement for success in any technological field.

Effective language learning techniques that are adapted to the particular requirements of technical education are therefore crucial. Teachers have a crucial role in giving students the language skills they need to succeed, from including challenging vocabulary exercises into coursework to offering chances for genuine speech in actual settings. Through the identification and resolution of obstacles caused by specialized language, jargon, and discourse patterns, educational institutions can enable students to achieve academic success and prosper in their future professions.

Numerous language barriers that affect students in technical disciplines might seriously impair their ability to study and perform well in school. The most notable of these difficulties is the enormous volume of technical subject-specific jargon and specialized vocabulary. For example, words like "algorithm," "circuitry," and "data analysis" are often used in technical conversations, but students who have never heard of them before may not know what they mean at all.

Technical writings also frequently include intricate syntax and voluminous terminology, which makes it harder for pupils who don't speak the instruction's language to understand them. Think about a student studying computer science who is trying to understand an artificial intelligence research paper. These papers often contain complex algorithms, complex mathematical calculations, and detailed technical descriptions, all of which require a high level of language competence to fully understand.

Thus, how might English be used in a technical higher education setting? The following are some suggestions for exercises and resources that could be utilized in the classroom:

Examining scholarly articles: Excerpts from scientific papers relevant to the students' subject of study could be provided. After that, they would identify the primary concepts, crucial terminology, and illustrative details in pairs or small groups. They could also share their research with the class and talk about any new terms or ideas.

Writing lab reports: Students could be asked to write a lab report based on an experiment they conducted in class. They would need to describe the purpose of the experiment, the methods they used, the results they obtained, and the conclusions they drew. They could also be encouraged to use appropriate scientific language and organization.

Giving presentations: Students could be asked to produce a brief presentation on a subject linked to their course of study. They would have to give an explanation of the subject, give examples, and cite references to back up their claims. They might also be urged to support their points with illustrations like graphs or charts.

Engaging in group discussions: Students might be divided into smaller discussion groups and provided a list of topics to go over. A case study, an issue-solving exercise, or a current news piece could serve as the basis for the questions. They would have to listen to others, voice their thoughts, seek clarification, and reply correctly.

English courses at LLC "Technical University "Metinvest Politechnika" use a range of techniques to meet the language requirements of students pursuing technical subjects. The utilization of real materials in the classroom is one such tactic. Students are exposed to the language and sentence structures frequently used in their subject by using authentic scientific texts. Students get knowledge on proper source citation, academic language usage, and writing organization. They also get pointers on how to communicate their findings in an understandable and interesting way to a non-specialist audience.

Students also improve their language skills outside of the classroom. For instance, they might take part in group projects where they work with their groupmates to address challenges from the real world. Students can hone their oral communication abilities and benefit from one another's knowledge by working together. These courses provide tutoring services to help students who require further language support on an individual basis.

For students pursuing technical disciplines, proficiency in the language of instruction is not only desirable but absolutely necessary. The ability to communicate in a language facilitates students' interaction with teachers, with their coursework, and with group projects. When writing lab reports, giving presentations, or participating in class debates, students need to be able to communicate complicated ideas clearly and convincingly using language.

Additionally, language ability is necessary to obtain instructional materials that are necessary for academic achievement. The main information sources in technical education include textbooks, research articles, and online tutorials, most of which are written in the instruction language. To enhance their comprehension of technical topics and remain up to date with developments in their profession, students need to be able to grasp, analyse, and synthesize information from these sites.

Language competency has benefits for academics as well; it is becoming more and more valuable in the global workforce. Employers now look for workers with good language abilities to help them overcome cultural differences and successfully communicate with global stakeholders, clients, and colleagues in an era of globalization and interconnection. Furthermore, being able to speak fluently in many languages boosts students' competitiveness in the labor market and opens doors to a plethora of worldwide professional prospects as sectors grow more internationalized.

In this context, the ESP teacher must fill many roles and acquire certain knowledge. Dudley Evans [3] describes the true LSP teacher as the one who performs five different roles; they are:

1) teacher;
2) collaborator;
3) course designer and materials provider;
4) researcher;
5) evaluator.

As a result, he or she is in charge of planning classes, defining learning goals, creating a conducive learning atmosphere, and monitoring students' progress. In the light of our problem, organizing courses means setting learning goals, transforming them into an instructional program with the timing of activities. In practice, this means choosing, creating, and arranging the course materials, encouraging the students to work hard, and giving them feedback on how they are doing. Establishing long-term goals and short-term targets for students' accomplishments is known as goal and objective setting. It also refers to putting up the conditions for learning in the classroom. When creating a syllabus with attainable objectives that considers students' concerns in the classroom, an understanding of students' potential is essential.

To sum up, Language Learning for Specific Purposes (LSP) is a fundamental approach to meeting the individual language requirements of students enrolled in technical education programs. Teachers can greatly improve their students' language learning experience by identifying and proactively resolving the difficulties presented by technical subject-specific jargon, specialist vocabulary, and conversation patterns. Teachers can give students the language tools and abilities they need to successfully negotiate the challenging linguistic terrain of technical subjects by implementing specialized teaching strategies and focused interventions.

There are several key characteristics that distinguish LSP from general language learning:

a. Purpose-driven: LSP is driven by the specific needs and goals of learners.

b. Authenticity: LSP emphasizes the use of authentic materials, such as real-world texts, documents, and recordings, that learners are likely to encounter in their target context.

c. Learner-centered: LSP takes into account learners' existing knowledge, skills, and experiences.

d. Focus on skills: LSP places a strong emphasis on developing specific language skills, such as reading, writing, listening, and speaking, that are essential in the target context.

It goes without saying that a language teacher teaching ESP to university students needs methodological skills, subject-specific knowledge, and the ability to analyse and adjust this information and skill set to a particular learning environment. In order to ensure the success of LSP, it is imperative that the community at large comprehends what LSP genuinely entails and is able to accept the many roles that LSP teachers must play.

We suggest our own conclusions about advantages and disadvantages of using LSP at LLC "Technical University "Metinvest Politechnika":

1. Using LSP at practical classes like English for Engineers and Technologists, English for Mining Engineers, English for Students of Occupational Health and Safety, English for Environmental Engineers allows for efficient and effective communication within a specific field or context.
2. Helps students to develop specialized vocabulary, expressions, and grammar structures relevant to their chosen speciality.
3. Can improve intercultural understanding and facilitate international collaborations.
4. Increases job opportunities by showing good knowledge and proficiency in a particular language.
5. By identifying the language needs of learners in specific fields, teachers can design materials and activities that target these needs.

Disadvantages:

1. May limit students' exposure to natural/useful language outside of the specific purpose.
2. Can be time-consuming and tedious for teachers to prepare for classes.
3. Learning materials and resources are limited in comparison to general language courses.
4. Some specific terminology or jargon may become outdated or irrelevant over time.
5. Teaching LSP is very demanding since specific and diverse types of knowledge and skills are required.

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Кочергіна С. С., Хорошайло О. С. Подолання мовних прогалин у технічній освіті: роль вивчення мови для спеціальних цілей (LSP).

Language for Specific Purposes (LSP) – це дисципліна, яка визнає різні мовні потреби студентів залежно від їхніх галузей навчання чи професій. Хоча університети пропонують курси ділової, медичної та юридичної англійської мови, мовним вимогам студентів технічних предметів часто приділяється менше уваги. У цій статті досліджується важливість звернення до складної лексики та понять у технічних галузях, наголошується на необхідності чітких навичок усного та письмового спілкування для студентів, які прагнуть досконалості в навчанні. Курси LSP, такі як англійська для інженерів і технологів, англійська для студентів відділу охорони праці в ТОВ «МЕТІНВЕСТ ПОЛІТЕХНІКА», задовольняють конкретні професійні потреби, адаптуючи навчальні стратегії та зміст. У статті представлено огляд основних концепцій LSP, історичного контексту та ролі ключових фігур, таких як Джон Суейлз, Дадлі-Еванс та Енн Бернс, у формуванні теорії та практики LSP. Англійська для спеціальних цілей перетворилася на важливу частину навчання англійської мови, зосереджуючись на розробці мовних програм, які відповідають комунікативним потребам людей у різних професіях. Термін «англійська для спеціальних цілей» стосується викладання англійської мови відповідно до конкретних професійних або академічних цілей, що відображає постійний розвиток дисципліни та внесок у мовну освіту. У сфері технічної вищої освіти, яка зосереджується на науках, технологіях, інженерії та математиці (STEM), мовна компетентність відіграє вирішальну роль в успішності студентів. Ця стаття висвітлює постійну еволюцію «англійської мови для спеціальних цілей», узгоджуючи викладання англійської мови з конкретними кар'єрними цілями та підкреслюючи її першорядну роль у технічній вищій освіті, зокрема в галузях STEM, для оптимізації успішності студентів.

Ключові слова: *мова спеціального призначення (LSP), технічна освіта, комунікативні навички, індивідуальне навчання, професійні потреби, лінгвістичні вимоги, академічна досконалість, навчання англійської мови, технічні галузі, освіта STEM.*