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ENHANCING ESP IN BIOLOGY EDUCATION THROUGH EXTRACURRICULAR ACTIVITIES

Angela TULEI
MA, Lecturer
Moldova State University, Republic of Moldova
ORCID: https://orcid.org/0000-0003-2648-8027

The present article is dedicated to the need of teaching ESP, English being considered the Lingua Franca of our age, which means that it is the dominant language of this era. Being able to communicate scientifically is an important skill for students graduating with a science degree. Skills used in future careers for science majors include oral and written communication, as well as science literacy and being able to create figures to display information. In the article below, we present an active curriculum that can be easily incorporated into any content-focused undergraduate Biology course in English. The curriculum is designed around scientific literature that engages students in a multitude of active learning activities to develop different types of scientific communication skills.

Keywords: *Competence, communication skills, scientific communication, professional communication competence*

In the context of increasing globalization, a good command of English has become essential for students studying scientific fields such as biology. English for Specific Purposes (ESP) is particularly important, as it helps students develop the language skills needed to understand specialized terminology, work with scientific texts, and communicate effectively in academic settings. This transition can be especially demanding for first-year university students, who often move from general English to more specialized language use. While many of them have a basic or intermediate level of English, they frequently struggle with technical vocabulary, academic writing conventions, and subject-specific communication.

ESP has become quite well known because English has acquired the status of an international Lingua Franca in almost any field of study. The term “specific” in ESP refers to the specific purpose for learning English. The present study is an attempt to find out the factors that make the ESP students’ use of English language for academic/professional purposes. ESP has become increasingly important as there has been an increase in vocational training and learning throughout the world; with the spread of globalization has come the increasing use of English as the language of international communication; more and more people are using English in a growing number of occupational contexts.

Characteristics of ESP:

- ESP is designed to meet the specific needs of the learners;
- ESP makes use of the underlying methodology and activities of the field it serves;
- It is centered not only on the language (grammar, lexis, register), but also the skills, discourses and genres appropriate to those activities.

The ESP focal point is that English isn't taught as a subject separated from the students' real world (or wishes); instead, it is integrated into a subject matter area important to the learners. ESP students are usually adults who already have some acquaintance with English and are learning the language in order to communicate a set of professional skills and to perform particular job-related functions. It concentrates more on language in context than on teaching grammar and language structures and covers subjects varying from accounting or computer science to tourism, business management and sciences.

ESP combines subject matter and English language teaching. Such a combination is highly motivating because students are able to apply what they learn in their English classes to their main field of study. Being able to use the vocabulary and structures that they learn in a meaningful context reinforces what is taught and increases their motivation. The students' abilities in their subject-matter fields, in turn, improve their ability to acquire English. Subject-matter knowledge gives them the context they need to understand the English of the classroom.

In the ESP class, students are shown how the subject-matter content is expressed in English. ESP assesses needs and integrates motivation, subject matter and content for the teaching of relevant skills.

The analysis of specialized literature shows that over the years the notion of ***competence*** has been approached from different perspectives. For the first time the concept of *competence* was used by Plato. Initially, the given term appeared in the psychology of professionalism, then it spread to practical researches of social psychology, and further on turned to cognitive researches, namely the pedagogical study.

According to G.Boterf, *competence* designates a set of resources (knowledge, abilities, attitudes), in order to solve a complex situation belonging to the situational-problematic field [1, p.38]. Analyzing the views of researchers such as J.Henry, J.Cormier, we deduced the following basic characteristics of the competence: it is complex, relative, potential; it is exercised in a certain situation; it is complete and inextricable; it is transferable; it is conscious, etc.

Similar views belong to authors like Aristotel, G.Boterf, Noam Chomsky, J.Raven, L.D'Hainaut, B.Rey, X.Roegiers, M.Minder, who described the term and notion of *competence* as a set of ideas where the *competence* is an ability based on knowledge, skills and attitudes acquired through learning [4].

R. Gherghinescu, C. Cucoș, Vlad Pâslaru, consider that *competence* represents knowledge, skills and attitudes [6, p.58].

The ***communication competence*** is seen as a component of the language competence.

The concept of *communication competence* was used for the first time by D.Hymes (1972) [2, p.19-24], which he attributes to the level of learning a language; this allows transmitting statements and understanding messages in specific contextual situations.

T.Slama-Cazacu defines *the communicative competence* as "an ability to present one's own intentions, needs, interests in the communication process, as well as to perceive the interlocutor, in order to initiate a dialogue in the educational process. In education, the ability of communication determines the understanding between the teacher and the student in order to achieve the goals and carry out the learning activity" [8, p.32].

A fundamental distinction in the definition of *competence* is made by Vl. Paslaru, who scores as one of its main characteristics the fact that it represents an acquisition of the student personality, also demonstrated by the verbs *to know how to do, to be able to, to be capable of doing, ...,* etc. [5, p.216].

The professional competence. By *professional competence* is meant the proven ability to select, combine and appropriately use knowledge, skills and other acquisitions (values and attitudes), in order to successfully solve a certain category of work or learning situations, circumscribed by the given profession, under conditions of effectiveness and efficiency. *Professional competences* represent an integrated and dynamic body of knowledge (knowledge, understanding and use of specific language, explanation and interpretation) and skills (application, transfer and problem solving, critical reflection, creativity and innovation) [3, p. 12].

The professional communication competence involves the competence to communicate in a specific language and includes knowledge in the field in addition to the components of the communication competence. *The professional communication competence* entails knowledge, skills and abilities with reference to the specialized language.

The following *characteristics* of the *professional communication competence* can be identified:

- to communicate in specialized language;
- to put the knowledge into practice through a professional treatment of the field;
- to present special qualities and characteristics based on a learned subject;
- to reproduce and explain by appropriate means the content of communication, sources, notes, indications etc.;
- to develop learning skills for the future.

In our opinion, being a competent professional means:

- to master basic knowledge in the specialized language;
- to possess specialized knowledge in the specialized language;
- to put the specialized knowledge accumulated during the studies into practice;
- to use the skills characteristic to the profession, acquired during internships;
- to communicate, inform, make decisions in problem situations;
- to propose and offer solutions to problem situations, etc.

The ultimate objective of learning a foreign language is the user's professional communication competence, possessing the structure and grammar of the mother tongue, intercultural awareness, practical skills and abilities, heuristic skills, possession of other skills: lexical, grammatical, semantic, discursive, functional, etc.

Below, we will identify some of the responsibilities of both teachers and students.

The responsibility of the teachers: As ESP teachers, we must play many roles. We may be asked to organize courses, set learning objectives, establish a positive learning environment in the classroom, evaluate students' progress, etc. One of our main tasks will be selecting, designing and organizing course materials, supporting the students in their efforts, and providing them with feedback on their progress. The teacher should create an atmosphere in the language classroom which supports the students. Learners must be self-confident in order to communicate and we have the responsibility to help build the learner's confidence. The teacher is a resource that helps students identify their language learning problems and find solutions to them, find out the skills they need to focus on.

The responsibility of the students: The learners come to the ESP class with a specific interest for learning. People learn languages when they have opportunities to understand and work with language in a context that they comprehend and find interesting. In this respect, ESP is a powerful means for such opportunities. Students will acquire English as they work with materials which they find interesting and relevant and which they can use in their professional work or studies. Learners in the ESP classes are generally aware of the purposes for which they will need to use English. They are constantly expanding vocabulary, becoming more fluent in their fields. Traditionally ESP courses are designed for intermediate or advanced adult learners. Some teachers are afraid of making the transition from teaching general English to teaching ESP. There is also a danger that the novice ESP teachers will only use materials that they feel comfortable with and will not stretch their learners.

An ESP program is built on an assessment of purposes and needs and the functions for which English is required. We've been teaching English to students from the Faculty of Biology and Geosciences for many years and we decided to put all the information we've been using during all these years together into one document and to update it every year. The book *Biology for Students from the Faculty of Biology and Geoscience* represents a compilation of texts and assignments on various biology topics and is meant for the first-year students of intermediate proficiency level. It is organized into generic chapters on areas such as *Biology, Botany and Zoology, Anatomy and Physiology, The Nervous System, Medicine and Health, Nutrition, Evolution and Genetics, Ecology and Environment* which have been divided into subchapters to facilitate students' comprehension. The structure of the eight chapters included is similar and the assignments are grouped according to the 3 levels: knowledge, application and integration. Each chapter is provided with italicized key terms and a transcription in the notes to the text section is given. In order to avoid any translation misinterpretation of the key terms, we decided to include Romanian and Russian translation at the end of the text, as well as translation exercises in two languages, the Romanian and the Russian ones and a set of grammar and vocabulary exercises. Each chapter starts with speaking activities and ends up with a couple of writing tasks. Students have to comment on proverbs, quotes,

situations, write dialogues, essays, make presentations on proposed topics, create term glossaries, reports, etc. [7, p.12]

- A sample topic is *The Cell*. Students study a scientific text on the structure of the cell, learn key terms such as *cell, membrane, nucleus, cytoplasm, protoplasm, deoxyribonucleic acid, mitochondrion, organelle, appendage, genome, mitochondrion, etc.* The transcription and the translation of the terms both in Romanian and Russian are provided, students being asked to find the definition of the terms in English. Comprehension check starts with some questions on the text, a summary of the whole abstract being made. There is also a set of vocabulary exercises, such as *Match the words with the definitions* and *Find in the text words for the definitions*, the first letter of the term being provided. A good example which really works is the assignment with the idioms where students have to match them with the right definition, for example: *blood is thicker than water – family relationships are stronger and more important than other kinds of relationships, such as being friends*; and then fill in the gaps with these idioms. They also have to use the idioms in sentences of their own, and even in the writing activity they have to comment on, which in this very subchapter is on the following situation: *A spaceship carried some substance to the Earth from another planet. Examining it under the microscope you saw a cell. What conclusion can you draw from this fact?* Here students have to prove they know how to write correctly an essay, the right structure, and to prove they understood the text *The Cell*, giving arguments and details regarding the cell structure and commenting that *cell means life*. As a speaking activity, students are offered a list of quotes/statements by famous authors and are asked to speak on the topic in a certain amount of time, each student being involved and thus speaking being practiced. [7, p.20]

One of the problems that face many ESP teachers is that students expect the teacher to be incredibly knowledgeable about everything, so it is a hard work for both the teacher and the students. In our work we sometimes ask for help our colleagues from the Faculty of Biology and Geosciences who are always eager to support and even teach us things which we are not sure about.

The analysis of specialized literature allowed us to state the following: skills reflect an ability to constitute a whole of knowledge, capacities and attitudes, willing to grant the individual the ability to achieve a goal, a role, to carry out a task, a business, an occupation as lasting components of the individual, in continuous development and evolution. Competence in the instructive-educational process becomes a component of the educated and belongs to a category with an elaborate educational capacity, has a triadic structure, is externalized in different levels of development, depending on age and orientation in a certain field. Professional communication competence refers to both aspects of competence, as well as those of communication competence.

One effective way to support students in their transition is by incorporating *extracurricular activities* into ESP learning. Such activities create additional opportunities to use English outside the traditional classroom and encourage students to practice in more

relaxed and meaningful contexts. As a result, they can improve both their language competence and their understanding of biological content.

First-year biology students often encounter several difficulties when learning ESP, such as:

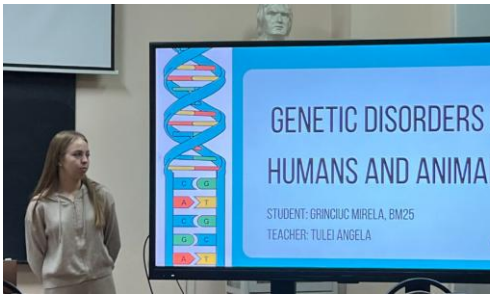
- **Vocabulary overload:** The large number of new scientific terms can be overwhelming
- **Complex texts:** Academic articles often include dense and abstract language
- **Lack of confidence:** Students may hesitate to speak or write in English due to fear of making mistakes
- **Limited practice opportunities:** Traditional lectures may not provide enough interaction
- **Differences in prior education:** Students come from diverse linguistic and educational backgrounds

These challenges highlight the need for supplementary approaches, such as ***extracurricular activities***, to reinforce learning.

Extracurricular activities create informal, engaging, and student-centered environments where learners can practice English in meaningful biological contexts. These activities complement formal instruction by encouraging interaction, creativity, and practical application of knowledge. They also support experiential learning, which is particularly effective in science education.

Among extracurricular activities the following should be mentioned:

- **Biology Clubs and Discussion Groups -** provide a collaborative space where students can explore topics beyond the curriculum. Meetings may include discussions on environmental issues, recent scientific discoveries, or ethical debates in biology. Students can present short reports, lead discussions, or participate in debates, all in English. This not only improves speaking skills but also enhances critical thinking and the ability to articulate complex ideas.
- **Scientific Workshops and Seminars -** workshops and seminars conducted in English expose students to authentic academic communication. Guest speakers, including researchers and professionals, can introduce students to real-world applications of biology. Attending such events helps students develop listening skills, note-taking abilities, and familiarity with academic discourse. Additionally, students may be encouraged to ask questions or summarize presentations, further reinforcing language use.
- **Project-Based Learning Activities - p**roject-based learning encourages students to engage deeply with both language and content. Examples include creating scientific posters, designing experiments, or producing short presentations on biological topics. These projects often involve teamwork, requiring students to communicate, negotiate, and collaborate in English. Writing project reports also helps develop academic writing skills and proper use of terminology. This is what we used to do with our students, choosing such topics as GENETIC DISORDERS and DOLPHINS.





- And others as: Field Trips and Observational Activities, Online Platforms and Digital Learning Tools, Competitions and Academic Events, Peer Tutoring and Mentoring Programs, etc.

Extracurricular ESP activities offer numerous **advantages** that extend beyond language learning: **Increased Motivation:** Interactive and varied activities make learning enjoyable and meaningful; **Confidence Building:** Informal settings reduce anxiety and encourage participation; **Improved Communication Skills:** Regular practice enhances fluency and accuracy; **Enhanced Academic Performance:** Better understanding of terminology leads to improved comprehension; **Development of Soft Skills:** Teamwork, leadership, and problem-solving skills are strengthened; **Greater Autonomy:** Students become more independent learners ; **Social Integration:** Collaborative activities help students build friendships and adapt to university life. These benefits are particularly important during the first year, which is a critical period for academic and social adjustment.

In conclusion it should be mentioned that ESP is an exciting movement in language education. It is opening up rich opportunities for English teachers and researchers in new professional domains. ESP is very important at least because it has become a rule that a well-educated and intelligent person has to speak English which is considered to be “the language of the future”. Enhancing ESP in biology education through extracurricular activities is a highly effective approach, particularly for first-year university students. These activities provide valuable opportunities for active, contextualized language use, helping students bridge the gap between general English knowledge and specialized academic communication. By fostering engagement, confidence, and practical skills, extracurricular initiatives contribute significantly to students’ academic success and professional development. Ultimately, a well-designed combination of formal ESP instruction and extracurricular support can empower students to become competent users of English in the field of biology, preparing them for future academic pursuits and careers in an increasingly interconnected scientific community.

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