



English for Specific Purposes: Teaching English for Science

Inglés para fines específicos: enseñanza del inglés para las ciencias

Inglês para Fins Específicos: Ensinar Inglês para a Ciência

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Resumen

El aumento de la necesidad de una lengua franca para la ciencia y la tecnología fue la causa principal de la búsqueda universal del inglés para un propósito específico (ESP), y que actualmente desempeña un papel importante en la enseñanza y la investigación (Lugossy et al., 2009). Así pues, el presente artículo trata de examinar el concepto del enfoque del inglés para un propósito específico representa en el campo general de la ciencia, los beneficios asociados al estudio del ESP y la forma en que los educadores deben formar a los profesionales en el marco del ESP. La investigación se basó en un diseño de investigación descriptiva para analizar los registros previos obtenidos ya sea retrospectiva o prospectivamente y no se limitó a la Ciencia. El resumen general de los datos, incluido un cuestionario de cinco preguntas cerradas, fue clave para poner a prueba la hipótesis, ya que reveló que la mayoría de los encuestados que aplicaban el ESP habían afirmado actitudes positivas hacia el aprendizaje del idioma en el entorno del aula. Las pruebas concluyentes de los resultados determinaron que un enfoque integral del ESP no sólo ofrece la oportunidad de adquirir el inglés de manera natural, sino que también hace que el aprendizaje o el trabajo sea más interesante, ya que los científicos e ingenieros trabajan con un idioma en un contexto que entienden.

Palabras clave: Inglés para Propósitos Específicos (ESP); Inglés para Propósitos Generales (EGP); Inglés como Lengua Extranjera EFL y Lingua Franca; aprendizaje.

Abstract

The increased need for a lingua franca for science and technology was the main cause of the universal search for English for a specific purpose (ESP), and it currently plays an important role in teaching and research (Lugossy et al. , 2009). Thus, this article tries to examine the concept of the approach to English for a specific purpose represents in the general field of science, the benefits associated with the study of ESP and the way in which educators should train professionals in the framework from ESP. The research was based on a descriptive research design to analyze previous records obtained either retrospectively or prospectively and was not limited to Science. The general summary of the data, including a questionnaire of five closed questions, was key to testing the hypothesis, since it revealed that the majority of respondents who applied the ESP had affirmed positive attitudes towards learning the language in the environment of the classroom. The conclusive tests of the results determined that a comprehensive approach to ESP not only offers

the opportunity to acquire English naturally, but also makes learning or working more interesting, since scientists and engineers work with a language in a context they understand.

Keywords: English for Specific Purposes (ESP); English for General Purposes (EGP), English as a Foreign Language EFL and Lingua franca; learning.

Resumo

A crescente necessidade de uma língua franca para a ciência e tecnologia foi a principal razão para a busca universal do inglês para um fim específico (ESP), e desempenha agora um papel importante no ensino e na investigação (Lugossy et al., 2009). Assim, este artigo procura examinar o conceito da abordagem de Special Purpose English (SPEA) no campo geral da ciência, os benefícios associados ao estudo da SPEA, e a forma como os educadores devem formar profissionais no âmbito da SPEA. A investigação baseou-se num desenho descritivo de pesquisa para analisar registos anteriores obtidos retrospectiva ou prospectivamente e não se limitou à Ciência. O resumo geral dos dados, incluindo um questionário fechado com cinco perguntas, foi fundamental para testar a hipótese, pois revelou que a maioria dos inquiridos que aplicavam o ESP tinha declarado atitudes positivas em relação à aprendizagem de línguas no ambiente da sala de aula. As provas conclusivas dos resultados determinaram que uma abordagem abrangente da ESP não só proporciona a oportunidade de adquirir naturalmente o inglês, mas também torna a aprendizagem ou o trabalho mais interessante, uma vez que cientistas e engenheiros trabalham com uma língua num contexto que compreendem.

Palavras-chave: Inglês para Fins Específicos (ESP), Inglês para Fins Gerais (EGP), Inglês como Língua Estrangeira EFL e Lingua Franca, aprendizagem.

Introducción

English for Specific Purposes (ESP) is exceptionally inclined towards applicable situations, meeting academic and professional demand. The language has thus been divided into much smaller subdivisions within the field of study. In Science, such subdivisions include English for Aviation, English for medicine, and among other such similar classifications. Most of the researches in the past have primarily focused on ESP in general and therefore unable to account for the major issues surrounding English for Science in particular. Due to this fact, the research aims at investigating the view of students towards English for Science and the barriers encountered in the acquisition of

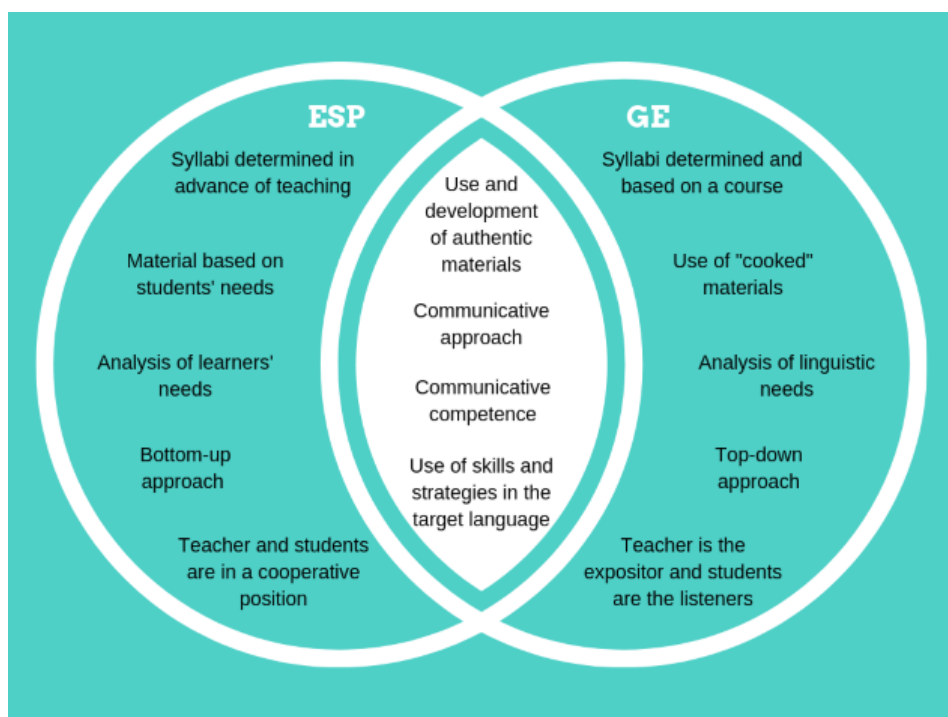
skills and knowledge in ESP practice. Apart from the description of other concepts related to ESP, such as English as a Foreign Language (EFL), English for General Purpose (EGP), English for Occupational Purpose (EOP) and English for Academic Purpose (EAP), the paper also highlights the benefits that accrue to learners undertaking the course, specifically in Science.

Previous studies have described ESP as a discipline that integrates professional practice and disciplinary knowledge in a complex and dynamic operation of distinct social conditions within which specific communication takes part. Kennedy and Bolith (1984) highlights the three categories of expectation in ESP application, which are personal and individual, cultural-educational and occupational/Academic (Kennedy & Bolitho, 1984, in Bracaj, 2014). ESP for Science can either be classified under English for Occupational Purposes (EOP) and is solely meant for work and profession or under English for Academic purpose (EAP)- with a role offer higher education to students specializing in particular fields in Science (Bracaj, 2014).

Hutchison & Waters (1987), in Paltridge, (2012) believes that need analysis is a crucial part of EPS course design. The authors believe that the awareness of need is what distinguishes the general English and the ESP. Learning needs and the target needs are the chief components of need analysis. By reviewing past published literature and research materials, it is possible to gather sufficient information based on the needs of the learners under the ESP program. For learners to perform a specific role proficiently, they require specific knowledge and skills in a particular role. Target situation analysis examines the future roles in learners and attempts to specify particular skills for particular tasks (Paltridge, 2012). Learners situation analysis entails the examination of the students at the initial stages of the program to determine the eligibility for a particular course as well as felt and process-oriented needs (Paltridge, 2012). Examination of the target condition enables us to ascertain what the student needs to know and able to do, thus increasing productivity. Paltridge (2012) reveals that in the recent past, teachers did not adequately prepare their learners for the texts they need to grasp and the role they are required to play within a discourse community. According to Bracaj (2014), ESP arose in the 1960s and has hence gained popularity after an increasing awareness that the general English course did not meet the employee's and learners needs, especially those in the technical fields (Bracaj, 2014). The growth of ESP was rapid in EFL nations where English is applied as an instructional dialect such as Albania than in other countries where it is a dominant lingua franca of education, research and technology (Paltridge, 2012). There

was a need to present the ESP course, especially in the tertiary level of education to satisfy the global desires of students' future careers (Chien & Hsu, 2010). The demand for ESP has ever since led tertiary education administrators and authorities to request for English for general purpose (EGP) replacement with ESP (Lamri, 2016). Although the theoretical application of EGP and ESP are similar, the practical perspective is entirely different (Dudley-Evans et al., 1998). The language description on the content to be learned is very specific and addresses the theoretical basis for methodologies for the learner to understand what to learn. The figure below summarizes the differences and the intersecting aspects of the two English divisions; hence easy conceptualization.

Figure 1: Similarities and differences between ESP and GE.



Source: <https://englishforspecificpurposes362802404.files.wordpress.com/2019/04/differences-and-similarities.png>

However, language acquisition strategies naturally differ from one individual to another based on age, aim and the level of study. In other cases, especially in EFL settings, learners have a low overall level of language skills and knowledge (Laborda & Litzler, 2015). Children's ability differs as well from the adult's and similar to the kind of attitude expressed by either teachers or learners. Anthony (1997) argues that the focus of the teacher should be to meet the needs of individual learners and achieve the desired expectations.

The ESP manual contains four primary linguistic skills which are reading, writing, listening and speaking (Schleppegrell, 1986). It also provides learning suggestions for study skills and grammar that enables the learners -adults already familiar with English-to perform a particular task related function and to communicate a set of professional qualifications (Schleppegrell, 1986). Therefore, ESP is a segment of a more significant movement within the teaching language that concentrates beyond teaching the language structure and grammar to language content emphasis.

According to Johns et al. (1991), ESP differs from English as a foreign language (EFL) in numerous ways, including the nature and the scope of the goals of instruction. It is essentially built on the functions and needs for which English required under an assessment of the purpose and therefore incorporated into the subject area critical to the students. Integration is a highly motivational strategy since it enables learners to apply their learning skills into their field of specialization (Karami, 2018). The ability to use the structures and the vocabulary in a meaningful context not only reinforce learning but also increase the learner's motivation. Students in particular field undertaking ESP classes have different abilities within their distinct fields which leads them to the context they need to understand within the English framework (Schleppegrell, 1986). Thus, the tutor is able to exploit their knowledge to enable them to learn more quickly.

Scientific ideas and technologies are exchanged continuously all around the world. Musikhin (2016) asserts that rapid and constant advancements in science and technology are the leading causes inadequacy observed in traditional models of language education to meet the modern-day practices and demands of institutions in the today's world of professions. Therefore, it is imperative that graduates from technical institutions, scientists and engineers, to nurture and cultivate the necessary language skills required to advance the current competitive world. The language skills taught in ESP programs should hence be based on the professional area of specialization (Musikhin, 2016). Ramírez (2015) highlights that it is eminent that the learning language approach needs be based on relevant experiences typical to the individual's profession in an international context so as to improve the learner's overall competency in international specialized activity engagements and create a rigid foundation for further studies and advancement of skills.

Within the ESP framework, learners are involved in tasks such as completing new sets of key phrases, unique technical vocabulary, searching further information and designing comprehensive and grammar exercises without the tutor's support (Musikhin, 2016). Major subject areas of ESP

that utilize such practices include science, accounting, tourism and business management. Development of ESP course based on the core principles has enhanced the comprehensive awareness and skills that enable learners to communicate with others of the same field but from different countries.

Methodology

The research conducted with respect to this paper applied a retrospective analysis of numerous existing academic researches and therefore takes the form of qualitative research. The primary researches were based on English for Special Purposes but not limited to science. The research also extracted data from studies with questionnaires to form a basis for both qualitative and quantitative data to support the evidence from theoretical findings. The most conspicuous research addressed by the questionnaire entailed 60 students on ESP practice from Law faculty. As stated earlier, the statistical aspect of the study was not limited science since, by assumption, the results would not have had any significant difference if conducted on science students. Major variables in the study that helped to understand the ESP concept included EGP, EAP and EOP. The most credible sources were summarized and used to test for the hypothesis.

Results

Most of the cases under examination for students attitude towards ESP and its benefits yielded positive results. The table below represents the results of the five close-ended question questionnaire evaluated.

Table 1: Significance of ESP

Question: Do you think ESP is of major significance in your field of study?	Number of students	Percentage
Respondents who said 'Yes'	45	75%
Respondents who said 'No'	15	25%
Overall	60	100%

Note: A number of 60 respondents participates in the experiment and represent a general expectation of students view on the importance of ESP in their specialist fields of study. From Saliu & Hajrullai, 2016,p 3.

Table 2: Students Attitude towards the ESP

Question: Is ESP favorable or unfavourable when used in classroom activities like debates?	Number of students	Percentage
Favorable	42	69%
Unfavorable	18	31%
Overall	60	100%

Note: The total number of 60 participants in the questionnaire represent the general expectation of student's attitude towards ESP practice through debate in the classrooms. From Saliu & Hajrullai, 2016,p 4

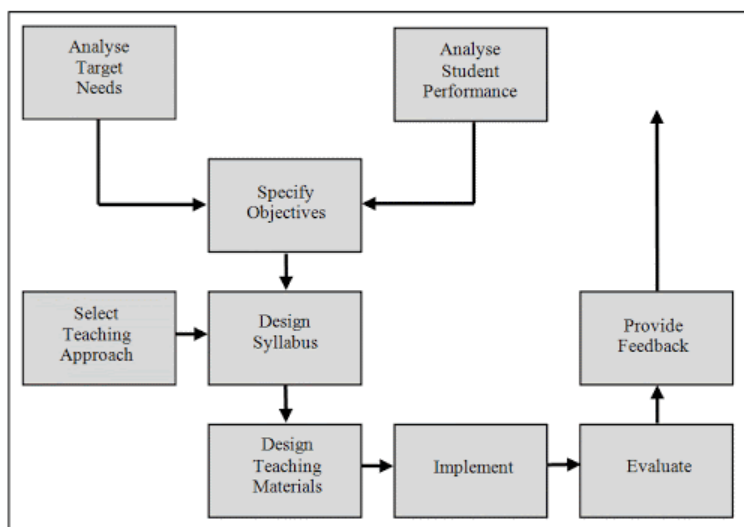
The majority of learners with a positive attitude attributed their assertiveness to their learning approaches and quality of their educator's communication skills, ability and willingness to support in the learning process (Saliu & Hajrullai, 2016). Learners asserted that participating in debates is similar to the oral presentation in its role in increasing self-esteem and self-confidence. When students learn ESP, they are more likely to develop an interest in the English language since they are required to perform a task under the English language since the intended level of accomplishment is to attain a satisfactory degree of command in their professional subjects of study.

Findings

Since motivation was the main influence on student's ability to learn ESP, selection of ESP in teaching science is to be considered as the most vital step in building a good foundation to run the course. Suitable materials assist the educator in introducing new learning methods and support students in the entire learning process. They act as teachers' reflection since they reflect their thoughts and feeling about the process (Anthony, 1997). Appropriate tools should be based on exciting activities and texts to motivate the learners and provide a wide range of skills within the specified framework (Belcher, 2006). Since ESP is a source of reading skills and vocabulary, the materials used in teaching should not be limited to printed texts. Combination of printed sources with oral presentations, video and audio-cassettes receptive to the context would make the learning effective. Concerning the science activities selected under ESP practice, they need to be consistent with the subject matter of study; otherwise, the main goals would not be achieved.

Creating a good learning environment is part of the primary steps undertaken to achieve the set goals and objectives. It is also a significant determiner of students attitude in the course and future failure or success (Belcher, 2006). In order to achieve the required level of motivation, teachers must show continuous and consistent will power to support the learners (Kennedy & Bolitho,1984). Appropriate support involves analysing the learner's needs, implementing teaching approach as per the objectives, evaluating the learning process and the learner feedback (Brown, 2016). The figure below gives a summary of the required flow of information in the teaching and learning ESP, particularly in science.

Figure 2: Appropriate model for teaching and learning ESP.



Source:https://lh3.googleusercontent.com/proxy/ygQjhRiXjt0CbvoT0eW3_dAZ21nZrVC48NsYvhItUkSGbO2F-ouVJS2q7mgFItgMG3laCV1WvJNP

In the model presented above, it is worth noting that the teachers are not the primary knowers; instead, their role is to authenticate communication and create Scienceperiences based on the learner's knowledge, and hence learners are the primary knowers.

Conclusions

The major roles of ESP in the learning of science include enhancement of the learner's ability to organize programs, set goals and objectives, establish a favourable learning environment and ability to evaluate progress (Schlepppegrell, 1986). The role of the teacher is to select or design

materials, implement and evaluate the learning process. As the ESP practices continue to gain momentum in developed countries with English as a foreign language, more attention needs to be paid in curricular planning and selection of materials (Laborda & Litzler, 2015). Consequently, the ESP application will be polished further and optimistically motivate learners not only in the field of Science but in the general academic and professional area (Basturkmen, 2006). It is highly recommendable that teachers entrusted to teaching ESP courses, to ensure independent work among their learners through individualized home assignments, including presentations to develop creativity. Appropriate material selection will enable them to design an ESP curriculum that transforms the class experience into a factual world of achievement and advancement.

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