

English for Medical Purposes

Handout for 1st year Master ESP and Specialized Discourse

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1. Introduction

The handout presents a comprehensive analysis of English for Specific Purposes (ESP), with a particular focus on English for Medical Purposes (EMP). The text is organised into four primary sections. The initial section discusses the fundamentals of English for Specific Purposes (ESP) and delineates its distinctions from English for General Purposes (EGP). It examines the various roles of the teacher as an educator, researcher, and collaborator. The second section addresses curriculum and syllabus design, emphasising the significance of needs analysis and presenting various syllabus models, including structural, functional, and task-based approaches. The third section addresses needs analysis within EMP contexts, detailing multiple types and methods, including target, present, and learning situation analyses. It emphasises ethnographic and task-based perspectives for identifying learners' communicative needs. The final chapter examines medical terminology and discourse, outlining the historical development of medical English, its prevalence in international scientific communication, and the necessity for clarity and cultural sensitivity within medical contexts. The handout provides ESP practitioners with theoretical insights and practical guidance for developing, implementing, and evaluating tailored English programs, particularly within academic and professional healthcare settings.

Objectives

Students will be able to:

- understand the unique philosophy and goals of English for Specific Purposes (ESP).
- Analyse the theoretical foundations of English for Specific Purposes (ESP), differentiating its core concepts and applications (Needs Analysis, target scenario analysis, discourse analysis) from English for General Purposes (EGP).

- Evaluate the specific communicative and linguistic needs (requirements, gaps, and aspirations) of learners in English for Academic Purposes (EAP) and English for Occupational/Professional Purposes (EOP) contexts.

- Employ the core concepts of English for Specific Purposes, including requirements analysis and task-based methodologies, to develop, evaluate, and enhance specialised curricula, syllabi, and instructional materials.

- Discuss the various roles of a contemporary ESP practitioner, including researcher, course creator, collaborator, and assessor, while highlighting the professional skills reAquired for effective collaboration with subject matter experts.

- Students are capable of designing and implementing a Comprehensive Needs Analysis for a specific target group.

- Students develop a comprehensive ESP syllabus proposal informed by a prior needs analysis.

1.2. Introduction to ESP and EMP:

English Language Teaching (ELT) may be roughly categorised as English for Specific Purposes (ESP) and English for General Purposes (EGP) (Hutchinson & Waters, 1987). ESP is considered more targeted, pragmatic, and object-oriented (Dudly-Evans & St John, 1998) than EGP. It seeks to examine learners' requirements, provide instructional materials, and formulate suitable pedagogical strategies. Due to these specific tasks, an ESP teacher is referred to as a 'practitioner' and has a distinct position compared to an EGP instructor. The contextual distinctions and instructional aims delineate unique responsibilities for ESP and EGP educators.

ESP instructors undertake several tasks, including collaboration, research, course design, and material development, in addition to their traditional responsibilities as educators. An ESP teacher must be proficient in professional skills and adaptable in methodology to address the

unique requirements of their students. In an ESP environment, the goal circumstance necessitates that a teacher customise their education for particular rather than broad reasons.

ESP includes two primary domains: ESP can broadly be divided into two main kinds: 'English for Occupational/Vocational/Professional Purposes (EOP/EVP/EPP) and English for Academic Purposes (EAP)' (Jordan, 1997, p.4). English for Academic Purposes (EAP) equips learners for academic pursuits at international institutions, and English for Occupational/Professional Purposes (EOP/EPP) prepares students for specific professional

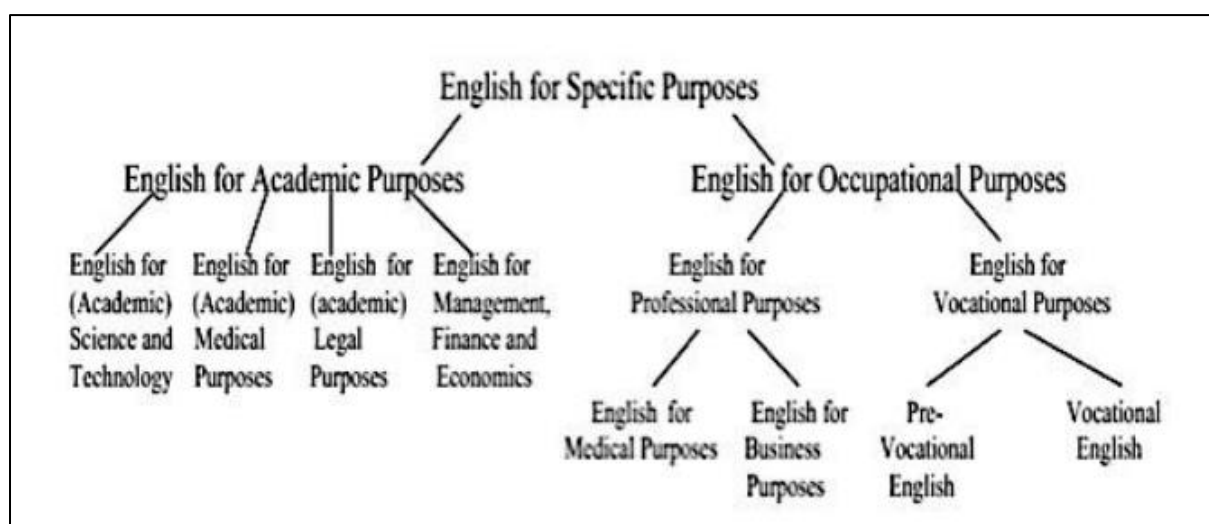


Figure 1: Classification of ESP courses (adopted from Dudley-Evans & St John, 1998, p.6)

environments. It encompasses disciplines such as engineering, law, medicine, computer technology, tourism, and business management. The overarching categorisation of ESP courses by learners' scientific fields or professional domains is shown below.

Equipping a student to operate efficiently in their current or prospective employment relies on a meticulously structured, well-managed English for Specific Purposes (ESP) course. Designing and implementing an English for Specific Purposes (ESP) course for university students presents a challenge for educators, as they must navigate various tasks, including defining the course objectives, selecting appropriate content, and determining

effective teaching methodologies and techniques to enhance the acquisition of specialised vocabulary and language structures pertinent to the intended contexts.

1.1.1 ESP definition

ESP is defined as the teaching of English to students who acquire the language for specific professional or academic purposes. English for Specific Purposes (ESP) has always emphasised needs analysis, text analysis, and the development of learners to communicate proficiently in tasks dictated by their academic or professional contexts (Dudley-Evans & St. John, 1998).

English for General Purposes (EGP) is referred to as 'TENOR - the teaching of English for No Obvious Reason' (Abbot, 1981, in Jordan, 1997, p. 4). The term refers to English-language learning environments in which learners lack a clear motivation to learn the language. EGP often refers to English language education at the school level, where learners are introduced to the structural and grammatical components of English to succeed in examinations (Hutchinson & Waters, 1987).

Hutchinson and Waters (1987, p. 19) define ESP as "an approach to language learning which is based on learner needs. The foundation of all ESP is the simple question: Why does the learner need to learn a foreign language? ... ESP, then, is an approach to language teaching in which all decisions as to content and method are based on the learner's reason for learning."

Dudley Evans and St John (1998, p. 5) define ESP in terms of "absolute" and "variable" characteristics.

Absolute characteristics are as follows:

1. ESP is designed to address the specific needs of learners.;
2. ESP utilises the foundational methods and practices of the field it supports.;
3. ESP focuses on the language pertinent to these tasks concerning grammar, lexis, register, study skills, discourse, and genre..

Variable characteristics include the following:

1. ESP could be associated with, or tailored for, particular fields of study.;
2. In certain teaching contexts, ESP might employ a methodology distinct from that utilised in General English.;
3. ESP appears to be tailored for adult learners, whether in a tertiary educational setting or within a professional environment. It may be suitable for secondary school students.
4. ESP is typically intended for students at the intermediate or advanced levels.
5. Most English for Specific Purposes (ESP) courses require a fundamental understanding of the language system.

This revised version by Strevens (1988), from which the absolute characteristics that ESP differs from General English were omitted, and some variable features were included. This approach, as emphasised by the authors, includes the following key features: a learner needs analysis; a target situation analysis that identifies the characteristics of the selected discipline or occupation in which students will utilise the foreign language; and discourse analysis, which involves examining the language employed in contexts relevant to the discipline. The implementation of these procedures seeks to develop an ESP course that equips learners for proficient communication in scenarios that arise, or will arise, within their professional endeavours and/or academic pursuits (Dudley-Evans & St John, 1998, pp. 2-4; Hutchinson & Waters, 1987, pp. 6-8; Johns & Price-Machado, 2001, p. 44).

1.1. The difference between English for Specific Purposes (ESP) and General English

One way of looking at ESP is as a more targeted version of EGP, focusing on helping students acquire the practical language skills necessary for success in the workplace (Potocar, 2002). On the other hand, EGP teaches students the fundamentals of the English language in a classroom setting where students' career aspirations and future academic goals are often

unclear. Introducing ESP in non-native/international settings primarily aims to provide learners with the tools they need to overcome communication problems in real-life professional contexts. Holme (1996, quoted in Potocar, 2002) argues that ESP should equip students with the language skills necessary to apply what they have learned by fostering their personal growth, exposing them to other cultures, and preparing them for the workforce.

Widdowson (1983, as cited in Ajideh, 2009) demonstrates that the differentiation between ESP and EGP is rooted in how we conceptualise and achieve the objectives of learning. ESP is characterised by its focus on specific objectives that align with the intended outcomes of training, emphasising the cultivation of specialised skills. In contrast, EGP is centred on broader educational aims, where the definition of objectives does not directly correlate with the desired outcomes; instead, it fosters a more general learning capacity. The primary function of an ESP educator is to design a syllabus aligned with practical objectives and to evaluate students' performance through the assessment of relevant language skills. In contrast, the EGP instructor is not required to establish the curriculum's goals and objectives. Consequently, an ESP instructor is fundamentally engaged in a training endeavour, preparing learners with a specific skill set to manage designated tasks. In contrast, an EGP instructor participates in an educational initiative, equipping learners with a broader capacity to navigate unexpected situations in the future (*ibid.*, p. 163).

The specificity of ESP courses requires that a teacher assume a distinct role and employ alternative teaching strategies to convey knowledge to students effectively. Initially, it is essential to identify learners' needs, which will ultimately influence the method, materials, and level of language instruction (Robinson, 1991). Hutchinson and Waters (1987, p. 53) assert that ESP is characterised by a recognition of specific needs, thereby differentiating it from General English. It can be inferred that an ESP practitioner functions similarly to a teacher of General English, unless they understand and address their students' specific needs (Robinson, 1991).

Specific linguistic knowledge and skills are likely relevant and beneficial across multiple subjects or professions (Holme, 1996). Skills necessary for communicative competence across various occupations may exhibit similarities (Potocar, 2002).

1.2. Implications for the materials, classroom practices and ELT

The proliferation of English for Specific Purposes (ESP) has significantly impacted the teaching of the English language. Currently, numerous ELT educators assess their students' needs to enhance the effectiveness of their programs (Kennedy & Bolitho, 1984). Educational leaders and policymakers should establish conditions that foster a research culture among ELT teachers. Teachers should engage in action research to evaluate the effectiveness of their specific language courses and the methodologies employed (Kennedy, 1985, as cited in Robinson, 1991).

Based on the previously discussed literature, an ESP practitioner must undertake more roles than an EGP teacher. Consequently, specialised training courses should be established as a prerequisite for entry into English for Specific Purposes (ESP) teaching. Pre-service, in-service, and refresher courses can be beneficial for the specialised training of ESP teachers. The extensive diversity of ESP contexts and courses precludes training a teacher for all variations. McDonough's (1988, as cited in Robinson, 1991, p.94) classification of training courses into 'wide-angle' and 'narrow-angle' categories appears relevant in this context. Newcomers to the field of English for Specific Purposes often lack clarity regarding the specific context they will select for instruction. Consequently, 'wide-angle' courses, which encompass general language teaching and broad ESP skills, are advised for pre-service training. In contrast, more specific, specialisation-oriented 'narrow-angle' courses are suggested for in-service training. Ewer (1983, in Robinson, p. 94) recommends that ESP teachers receive training to address the attitudinal,

conceptual, linguistic, methodological, and organisational challenges they may encounter in their various roles.

Significant changes have occurred in the teacher-learner relationship due to the differing roles of ESP and EGP teachers. ESP instruction is more focused on students' needs than EGP instruction. In an ESP classroom, the teacher will encounter students who are generally older than those in an EGP setting. At times, students may possess greater knowledge of subject content than the teacher does. Educators should refrain from claiming absolute authority in these contexts and adopt a more informal teaching style to promote student engagement in classroom activities. The initiation-response-follow-up sequence of classroom discourse (Sinclair & Coulthard, 1975, as cited in Dudley-Evans & John, 1998) may be ineffective in an ESP teaching context, where learners can initiate discussions or pose questions that require teacher responses. ESP teachers are advised to maintain flexibility in their classroom practices throughout the lesson (Jordan, 1997).

The implications for material design have been extensive. Extensive research across diverse disciplines and professions has educated individuals about the various functions of the English language. This has motivated numerous individuals to commence materials writing projects across various domains of English Language Teaching (Kennedy & Bolitho, 1984). Recent advancements in material design suggest that English for Specific Purposes (ESP) can transform a communicative language curriculum into either a functional-notional or a task-based syllabus (Dudley-Evans & St. John, 1998, p. 19). This may help educators motivate students by offering them the opportunity to use language to express their own purposes and meanings. Encouraging student autonomy in English for Specific Purposes (ESP) can be effectively achieved by allowing students to select their own materials. The ability to choose can improve creativity and motivation (Ajideh, 2009).

1.3. Comparative roles of an ESP and EGP teacher

Determining a teacher's role in a general or specific context is challenging due to its dynamic nature. It continues to evolve due to variations in syllabi, courses, and teaching contexts (Jordan, 1997). This fact facilitates an understanding of the various roles of EGP and ESP teachers. If an ESP teacher and an EGP teacher are distinct, it is pertinent to examine their differences. Hutchinson and Waters (1987) state that, theoretically, there is no distinction between ESP and EGP; however, numerous practical differences exist between them. According to Robinson (1991, p. 79), an ideal role description for an ESP teacher does not exist due to the extensive diversity of ESP courses and contexts. Dudley-Evans and St. John (1998) identify specific roles of an ESP practitioner, including teacher, course designer, material provider, collaborator, researcher, and evaluator. The unique responsibilities of an ESP practitioner distinguish them from a General English teacher. Flexibility is considered a key factor in an ESP teacher's success. A personal quality distinguishes an EGP teacher from an ESP practitioner, enabling the effective instruction of diverse student groups, even on short notice (Robinson, 1991, p. 80).

1.3.1. Role as a Teacher

The ESP practitioner primarily functions as a teacher and, therefore, must embody the attributes of an effective general language instructor in addition to the specialised qualities pertinent to their specific discipline (Robinson, 1991). The methodology of English for Specific Purposes (ESP) teaching may not differ significantly from that of General English (Dudley-Evans & St. John, 1998, p. 13). Considering the specificity of English for Specific Purposes (ESP) in a strict sense, it is assumed that the role and methodology of a practitioner differ from those of an English for General Purposes (EGP) teacher. An ESP teacher does not serve as the 'primary knower' of the carrier content of the material (ibid). The rationale is straightforward:

English for Specific Purposes (ESP) encompasses specialised knowledge pertinent to a particular context, discipline, or profession, whereas educators typically possess training solely in language skills. Consequently, learners may possess greater knowledge of the teaching material than the teacher does. An effective educator can harness students' knowledge to develop efficient communication strategies within the classroom. In these contexts, the teacher assumes the role of a 'consultant' (Robinson, 1991), collaborating with students to develop a classroom strategy to achieve their learning objectives.

In specific ESP contexts, such as English for Academic Purposes (EAP), English for Occupational Purposes (EOP), and Business English, the teacher functions as a mentor providing individualised guidance to students. This specific focus has been shown to enhance students' communication skills and linguistic accuracy (Dudley-Evans & St. John, 1998, p. 14). In an EGP context, the teacher typically serves as the primary source of content knowledge. He establishes his authority in the classroom and rarely acts as a mentor or advisor to his students.

1.3.2. Course designers and materials providers

In English for Specific Purposes (ESP), teachers are responsible for developing courses and providing materials to their students. The courses and materials must align with learners' diverse needs and contexts. It is often challenging to identify suitable textbooks that adequately address students' linguistic and communicative requirements within a specific context (Dudley-Evans & St. John, 1998). An ESP teacher must prepare their own teaching materials. The individual either gathers materials from diverse sources or composes original content when the desired resources are unavailable (Kennedy & Bolitho, 1984). The responsibilities of an ESP teacher extend beyond instruction; they must evaluate the effectiveness of the materials both during and after the course. In contrast, an EGP teacher adheres to the designated syllabus and utilises textbooks approved by school authorities for various educational levels. He or she

consistently follows the teaching methodology prescribed in the literature or recommended by the authorities.

1.3.3. As a Collaborator

ESP practitioners must possess knowledge of their students' specialisations to effectively plan courses and teaching materials across diverse academic and professional genres. A teacher cannot effectively master the specific requirements of all the disciplines they are tasked with teaching. In this context, collaboration with subject specialists in the relevant disciplines is recommended (Dudley-Evans & St. John, 1998). This collaboration can take various forms: simple cooperation, specific collaboration, and the most comprehensive collaboration (ibid). An ESP teacher, in collaboration with a subject specialist, understands the subject syllabus and the professional responsibilities of their students. The collaboration entails extended cooperation between the ESP teacher and the subject specialist. The latter grants the former access to the actual content of the subject course, which can be utilised in classroom activities. A subject specialist may evaluate the ESP teacher's teaching materials in specific contexts (ibid). The subject specialist and the ESP practitioner collaborate to teach the class. This approach is referred to as 'team-teaching' (Robinson, 1991, p.88). This type of collaboration is unnecessary in the context of an EGP.

1.3.4. As a Researcher

An ESP practitioner should be interested in research methods that support tasks such as needs analysis, course design, and material selection. This position is essential in the domain of English for Academic Purposes, where a substantial body of research has already been published (Swales, 1990, cited in Dudley-Evans & St. John, 1998). To benefit from this research, a teacher must possess the requisite aptitude and skills. Teachers must thoroughly analyse students' desired skills when assessing their needs. A comprehensive assessment of

learners' identified skills and the associated texts is necessary (Dudley-Evans & St. John, 1998). Research in EGP is lacking due to the continued emphasis on traditional grammatical structures in current teaching practices.

1.3.5. As an Evaluator

An ESP practitioner assesses both students' linguistic knowledge and skills, as well as the courses and materials they have developed (ibid). Engaging in discussions with students and conducting ongoing needs analyses can effectively reveal the alignment between the course content and materials delivered and the learning priorities identified by students. An EGP teacher partially fulfils this role by participating in the evaluation of their students.

1.4. English for Medical Purposes

The spread of EMP, as a subset of ESP, encompasses a broad definition that includes English tailored for various medical and allied health professions. This likely indicates an increased global demand for and mobility within this profession, as documented in the literature (e.g., Oulton, 2006, as cited in He, Xu, & Zhu, 2011). The discourse on EMP emphasises the intersection of nursing and medicine, primarily because of their shared language and communication competencies, as well as the substantial literature in these fields. EMP may represent a 'pure' form of ESP or a variant of EOP, contingent upon the learner and the educational context.

1.4.1. Content of EMP courses

The outcome will vary based on the discipline (nurse or doctor), the category of learners (undergraduates, postgraduates, etc.), and the duration of the course. Nonetheless, the majority of these content and skill domains are appropriate for an EMP course. A needs analysis will provide guidance on which areas to emphasise.

Medical terminology is a prominent characteristic of English for Medical Purposes (EMP). Terminology such as adduction or anoxia is not commonly used across disciplines, and specialised language may vary even within different medical fields. Language often exhibits nominalisation and comprises compound words and multi-word units, such as **myocardial infarction** and **transient ischaemic attack** (Milosavljevic & Antic, 2015). Mastering the standard or lay terms for these conditions, such as using "breathlessness" in place of "dyspnoea," may present even greater challenges (Popa, 2013). Others have noted this issue (e.g., Dahm, 2011; Dahm & Yates, 2013; Staples, 2015) as presenting challenges in patient interactions, as patients often articulate symptoms in non-technical terms.

1.4.2. Literacy competencies

The EMP style, consistent with typical scientific writing, is characterised by depersonalisation and objectivity, with a significant emphasis on the passive voice (Milosavljevic & Antic, 2015). The content encompasses various receptive and productive genres, including form-filling (e.g., insurance forms, admission/discharge forms) and the writing and reading of patient files (utilising internationally and locally accepted medical abbreviations), referral letters, and prescriptions (Cross & Smalldridge, 2011). Engaging with academic journals and producing scientific writing for publication are essential activities for advanced students. Research indicates that a strong command of English is essential for students to advance in their professional careers. English serves as the primary language for publications and international presentations, and accessing continuing medical education opportunities is challenging due to the predominance of English-language resources in the medical field (Zhang & Wang, 2015; Popa, 2013).

Oral communication:

Practical language use and pragmatic considerations. Key functional skills associated with listening and speaking include obtaining a patient's history, diagnosing conditions, providing advice and instructions to patients, presenting cases, and managing referral phone calls (Antic, 2015). The associated pragmatics may not be immediately apparent. Research indicates that NNSEs encounter challenges with the pragmatics of language pertinent to patient care, such as demonstrating empathy, comprehending slang utilised by patients, and operating within a patient-centred care framework (Dahm, 2011; Dahm & Yates, 2013; Staples, 2015). Staples (2015) found that when English is spoken, the framing of questions may appear invasive, and expressions of empathy are not clearly conveyed. Learn to apply the language acquired in a clinical setting and the practice of medicine; this application in a realistic context will facilitate their integration into the target discourse community (1990, as cited in Popa, 2013).

1.4.3. Teachers of English for medical purposes

The primary objective for teachers of EMP is to enhance their understanding of medical terminology and the structures utilised in medical texts. Participation in training workshops could facilitate self-promotion. Their understanding of the discipline enables them to attain EMP educational objectives (Chang, 2007).

Teachers of medical English are encouraged to involve students more actively in language learning through practical sessions and to create an immersive environment that facilitates the acquisition of all aspects of the English language (Al-Qahtani, 2013). Recent studies suggest that educators can enhance students' comprehension of the subject matter by posing frequent and thought-provoking questions (Doley, 2010).

EMP educators would also face challenges. One challenge they encounter is the insufficient availability of university resources (Heming & Nandagopal, 2012). A diverse student group presents a challenge for instructors aiming to teach all students effectively (Starkey, 2015). Students with limited English language proficiency, combined with the constraints of traditional pedagogical approaches, complicate the challenges faced by EMP teachers (Rivera-Goba & Campinha-Bacote, 2008). A more precise assessment of medical students' English language proficiency, teaching methodologies, and university resources would enhance the promotion of an English for Medical Purposes (EMP) instructor.

1.4.4. Cultural Understanding as a Role of ESP Teacher

An ESP practitioner, akin to an EGP teacher, must understand and respect students' cultural sensitivities, particularly in a non-native context. Additionally, an ESP teacher must recognise the distinctions among different academic or professional cultures in which they operate (ibid). It is essential to maintain cultural awareness during the course design, material preparation, and instruction processes. William (1981) posits that an ESP instructor must understand students' context (p. 91). Robinson (1991) critiques the term 'knowledge of students' world' for its vagueness and provides a more precise definition. He posits that it may encompass 'culture and personal concerns in addition to their specialisation' (p.80). The specific culture of ESP classrooms emphasises the importance of students' respect, as they may possess greater knowledge of subject content than their language instructors (Smith, 1983).

The role of an English for Medical Purposes (EMP) teacher as a cultural understanding facilitator involves creating a classroom environment conducive to medical professionals learning about diverse cultures and to effective interaction with individuals both globally and within their local communities. This entails understanding the communication styles of various cultures, their beliefs regarding health, and their interactions with healthcare

providers. This may help reduce healthcare disparities and enhance its quality. Educators must possess cultural competence and apply this understanding in their instruction by developing suitable materials and activities that cater to diverse learners.

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2.1. Curriculum and Syllabus Design

2.1.1. Defining curriculum

Curriculum refers to the structured set of educational experiences and learning objectives designed to guide instruction and assessment within an educational program. The curriculum is an educational construct that encompasses philosophical, social, and administrative elements that influence the design of an educational program (Allen, 1984). The curriculum is defined as the comprehensive rationale for an educational program within an institution. The process encompasses planning, procedures for implementing the plan, and students' experiences during the learning process (Kelly, 1989, p. 14). In applied linguistics, curriculum refers to an educational program that outlines its objectives, content, instructional methods, and learning experiences required to fulfill these objectives, as well as the assessment strategies for the program (Richards, Platt, and Platt, 1992:94). A language curriculum encompasses a comprehensive language program that outlines content specifications, teaching objectives, learning activities designed to meet these objectives, methods for assessing learning outcomes, and evaluations of each component of the curriculum. A curriculum includes specifications regarding its foundational philosophy and the rationale for its implementation.

2.1.2. Models of Curriculum Design

Three prevalent models of curriculum planning in language teaching are identified (Nunan, 1988; Finney, 2002). First, *the content model* posits that the curriculum's emphasis is on the content intended for learner acquisition and development. This model is employed in grammar-based curricula, wherein the syllabus encompasses the grammar and vocabulary of the language. The curriculum aims to instruct learners in the language system, enabling them to master the rules of grammar and vocabulary.

The second model is *the objective model*. This model initiates with the aims of instruction. Learning is defined as a process that results in observable behavioural changes, measurable in terms of behavioural objectives. Behavioural objectives in language teaching have faced significant criticism due to their limitations in addressing the cognitive and affective dimensions of learning (Tumposky, 1984), as well as the challenges they present in defining objectives for the expressive and creative functions of language (Clark, 1987).

The third is *the process model*. This model emphasises human values as the central focus of learning. The objective of education is to facilitate students' attainment of self-fulfilment. It focuses on the advancement of comprehension rather than merely the passive absorption of knowledge or the acquisition of particular skills. Education goals are articulated through the processes and procedures that facilitate individual understanding, awareness, and the acquisition of skills necessary for future learning and development. This model utilises learner needs and interests in the educational process. This model serves as the foundation for curricula, such as those implemented in the Bangalore Project (Prabhu, 1983) and task-based language teaching (Long & Crookes, 1992). This study utilises the curriculum model as a foundational framework for deriving and developing the syllabus design.

Numerous proposals in the literature have led to the development of various curriculum models. Curriculum development encompasses a sequence of activities designed to establish a framework that assists educators in implementing instructional practices. The framework will facilitate students' learning efficiently and effectively within a specific context. The curriculum development process may differ based on the perspectives and beliefs of the curriculum designers. The traditional perspective on curriculum development in education is based on the work of Tyler and Taba, as referenced in Olivia (1982). Their models are prescriptive and linear, encompassing several stages: formulation of objectives, content selection, task analysis, design

of learning activities, and evaluation, which serves as the concluding activity. Their framework lacks feedback mechanisms for each stage of the development process.

2.1.3. Curriculum Development Process

In language teaching, multiple models of language curriculum development exist; four of these are outlined in the table below:

N°	Richards (1984)	Nunan (1988)	Johnson (1989)	Finney (2002)
1	Needs analysis	Needs analysis	Curriculum policy	Curriculum policy
2	Objectives	Goals and objectives	Needs analysis	Needs analysis
3	Syllabus design	Syllabus design	Syllabus design	Syllabus design
4	Methodology	Methodology	Methodology	Methodology
5	Evaluation	Evaluation	Evaluation	Evaluation

The table indicates that the initial stage of curriculum development involves needs analysis, except for Johnson's and Finney's frameworks, where needs analysis is secondary to establishing the curriculum policy. In the models proposed by Richards and Nunan, program objectives are positioned as secondary. In the frameworks of Johnson and Finney, the second

step involves identifying needs, which, as stated by Johnson, encompasses the formulation of program objectives. The third step in the models involves syllabus design. The methodology is positioned fourth within the models. Evaluation constitutes the final step in the four frameworks.

In summary, curriculum development includes activities such as establishing curriculum policy, identifying learner needs, setting goals and objectives, designing the syllabus, and determining methodology and evaluation strategies. Johnson (1989) asserts that the evaluation process should be continuous and occur at every stage of the curriculum planning process. The models presented suggest that syllabus design is integral to the overall development of the curriculum.

2.1.4. Systematic Approach to Designing and Maintaining Curriculum

Curriculum development in this model starts with the identification of learners' language needs. The results of the needs analysis will inform the establishment of the program's goals and objectives. The subsequent step involves designing tests aligned with the objectives. A test should assess the extent of learning or determine if the objectives have been met. Course materials are selected, created, modified, or adopted from existing sources. The final step involves instructing materials within the classroom setting. Evaluation is necessary at each stage of the curriculum process as well as for the overall curriculum development process. Evaluation involves analysing pertinent information throughout the stages of curriculum development to enhance the curriculum. Brown's model posits that syllabus design must be logically derived from the specification of objectives, which constitutes the second step in the model. Consequently, in accordance with Brown's model, a syllabus design must adhere to established objectives. A syllabus must be developed after the objectives have been established.

2.2. syllabus design

Syllabus design is inherently linked to the curriculum development process. Syllabus design involves delineating the content to be taught (Allen, 1984, p. 61). To specify language elements for a syllabus, several factors must be considered: learner information, the execution of learning activities, or a combination of these aspects. The primary consideration in syllabus design involves identifying the linguistic elements to be taught, understanding the learner's objectives with the language, and planning activities that facilitate language acquisition (Nunan, 1988, p. 26).

Considering these factors, individuals hold two distinct perspectives on syllabus design. One perspective suggests that a syllabus should consist solely of lists of items designated for instruction. This represents a limited perspective. The responsibility of a syllabus designer involves selecting language items and establishing their sequence. The syllabus designer is not responsible for selecting and sequencing learning activities that facilitate acquisition. This perspective differentiates between item selection and methodology (Nunan, 1999).

Nevertheless, the emergence of communicative language teaching undermines this perspective. The selection of learning activities is intrinsically linked to the choice of language units to be incorporated into the syllabus. This represents a comprehensive overview of syllabus design. This research employed a limited perspective on syllabus design. The initiative focused solely on identifying syllabus items, leaving the selection of learning activities to the teacher, as these activities may differ based on individual preferences or the available support facilities at the institution.

Candlin (1984) asserts that a language curriculum encompasses overarching statements regarding language acquisition, learning objectives, assessment, and the anticipated roles of

both instructors and students. Language curriculum development comprises three fundamental steps: planning, implementation, and evaluation (Nunan, 1988, p. 3). The design of a language program must systematically incorporate these three steps. The syllabus design constitutes a component of the curriculum development process. The figure below (Brown, 1995, p. 20) illustrates a systematic approach to language curriculum design, encompassing needs analysis, objectives, testing, materials, and teaching for enhanced visualisation of syllabus design within the curriculum process. His model outlines a series of logical steps and components designed to enhance a language program.

2.2.1. Types of syllabi

a. The Structural Syllabus

Syllabus design has experienced significant evolution since the 1970s. The initial category of syllabus is the structural syllabus. This syllabus, as indicated by its title, comprises a list of structures as its fundamental components. This syllabus assumes that language learning necessitates mastery of language elements and the rules governing their combination (Richards & Rodgers, 1986, p. 49). Additionally, each lesson should build upon the previous one (McDonough, 1984), necessitating that structural items be organised according to increasing complexity (Nunan, 1988c, p. 28). The instructional approach adheres to this progression. Instruction occurs sequentially, with the understanding that learning unfolds through the gradual accumulation of structural elements until complete language acquisition is achieved (Wilkins, 1978). Language comprises a finite set of rules that can be combined in various ways to convey meaning. These rules can be acquired sequentially, in an additive and linear manner (Nunan, 1988c, p. 29). According to the structural syllabus, learners are tasked with integrating or synthesising language elements that have been deconstructed into smaller components, utilising them for communicative purposes as needed (Wilkins, 1978, p. 2). The

instruction of language components serves as a preparatory measure for practical application. The structural syllabus is predicated on the assumption that internalising grammar, in conjunction with the practice of linguistic skills, is essential.

This provides the most effective preparation for the reality of communicative encounters. (Widdowson, 1990:132)

According to Widdowson (1990), the structural syllabus is understood not as units of performance, but rather as units of linguistic competence. Learning within the framework of a structural syllabus represents an "investment in competence" (Widdowson, 1990), which can be actualised in practical application when necessary.

The structural syllabus has faced significant criticism on various grounds. Presenting language structures individually does not accurately represent authentic communication. It overlooks the complexity of usage (Nunan, 1988c, p. 40), where various structures may interact to illustrate relationships between forms and meanings (Long & Crookes, 1993). This is demonstrated by the manner in which individuals engage in conversations that utilise multiple structures, with the components that constitute meanings often being unpredictable. Furthermore, grammatical grading does not align with the processes through which learners acquire language. Research in second language acquisition suggests that learning is not a straightforward, additive process (Nunan, 1988a, p. 29). The grammatical grading of content can distort the language accessible to learners and may hinder language acquisition, a complex and non-linear process. A structural syllabus, even if sequenced according to language development, cannot accurately align instruction with the progression of acquisition due to the variability of acquisitional sequences among learners (Robinson, 1998). Various aspects of grammar evolve concurrently, rather than sequentially mastering one structure at a time (Nunan, 1988a, p. 30). Third, learners must be exposed to language in authentic contexts, encompassing not only grammatical elements but also broader aspects of

discourse. A structural syllabus fails to equip learners with the necessary skills to navigate the complexities of language use. Consequently, it is infeasible to offer learners exposure to all target language constructions, including those forms required beyond the grammatical level. Grammatically graded items do not accurately represent the characteristics of language use.

Furthermore, research on second language acquisition has indicated that a discrepancy may exist between the instruction provided and the learning outcomes achieved. Certain SLA researchers have asserted that this mismatch is probable because the selection of syllabus items is not grounded in psycholinguistic principles of learning (Nunan, 1988b, p. 40). This may lead to demotivation (Wilkins, 1978) as learners are not afforded timely opportunities to communicate in the target language. Presenting language structures in a graded manner is inefficient, as not all learners require knowledge of every structure included in the syllabus (Long & Crookes, 1993, p. 13).

b. The Notional-Functional Syllabus

The limitations of the Structural Syllabus have led linguists to develop an alternative syllabus that is not solely focused on grammatical structures. The Notional-Functional Syllabus, which succeeded the Structural Syllabus, aims to replace and enhance the previous framework (Nunan, 1988c; Long & Crookes, 1993). The term "functions" refers to the communicative purposes of language, while "notions" denote conceptual meanings, including objects, entities, and states of affairs. The Notional-Functional Syllabus offers a more accurate representation of genuine target language usage and possesses greater communicative value than its predecessor. The Notional-Functional Syllabus prioritises relevance to learners' communication needs, which is accomplished through the implementation of needs analysis. Wilkins (1978) asserts that the Notional-Functional Syllabus aims to alter the balance

of priorities by emphasising the meanings conveyed or the functions executed through language (p.83).

The Notional-Functional Syllabus, while prioritising authenticity and learner relevance, exhibits considerable similarities to the Structural Syllabus in terms of content and exercise types (Nunan, 1988c). The learner may be required to discuss "what they did yesterday" rather than learning about the past tense." The Notional-Functional Syllabus differs from the Structural Syllabus in that it presents language through linguistic devices, including modality and communicative functions (Long & Crookes, 1993). The Notional-Functional Syllabus utilises these devices to equip learners with communicative skills suitable for various contexts. The syllabus components are organised based on the utility or complexity of language functions (Littelwood, 1991).

The Notional-Functional Syllabus, like the Structural Syllabus, faces various criticisms. The selection and grading of communicative functions is more complex than that of the Structural Syllabus. In addition to identifying linguistic items, the syllabus designer must consider language functions that will be beneficial for learners in situations requiring communication in the language. This necessitates conducting a needs analysis to determine the communicative purposes for which the learner acquires the language. The execution of needs analysis is frequently limited by factors such as time, resources, and expertise.

The issue arises in grading language functions when establishing the criteria for sequencing. Determining the difficulty level of language functions, such as "apologising," presents significant challenges. It may be more challenging than "requesting." The complexity of this problem increases when situational, contextual, and extralinguistic factors are considered in the sequencing of language functions.

The criticisms directed at the Structural Syllabus are similarly applicable to the Notional-Functional syllabus. Widdowson (1983a) argues that deconstructing language into discrete functions fails to represent the process of language acquisition accurately and mischaracterises the essence of language as a means of communication (Nunan, 1988b, p. 35). Communication is widely understood to occur within a discourse framework, where the functions of language are significant. In educational contexts, language functions are often taught individually, a method that fails to meet the criteria for effective communication. Communication employs various language functions, which can frequently be unpredictable. The notion that learners acquire one function at a time lacks support from second language acquisition research, as noted by Prabhu (1987). There are methodological implications that lead to differing emphases when adopting either a structural or functional syllabus; however, both types share the fundamental characteristic of viewing language acquisition as a planned process of input assimilation. Both depend on the validity of the equation: what is taught equals what is learned.

This suggests that learning cannot be predetermined pedagogically, as each learner possesses a unique "syllabus" that differs from individual to individual.

In the design of both Structural and Notional-Functional syllabi, the language elements to be taught are predetermined. The learning objectives are established without regard for the characteristics of the learners or the processes through which language items are acquired. These types of syllabi are governed and shaped by external authorities rather than by the learners themselves. Success in language learning within these syllabuses is evaluated based on the achievement or mastery of the language items taught. Syllabus types include the synthetic or type A syllabus (Long & Crookes, 1992, p. 29).

The ongoing advancement of syllabus design, conversely, emphasises the methods through which language acquisition occurs. This syllabus does not require the pre-selection of language items. The process of language learning is significantly influenced and guided by

both the teacher and the learner. Achievement in learning within this syllabus framework is assessed through the completion of specific classroom tasks and assignments. This syllabus is classified as an analytic or type B syllabus (Long & Crookes, 1992) or as a communicatively oriented syllabus (Nunan, 1988c).

The primary consideration in developing this syllabus type is, "What objectives does the learner have for using the target language?" instead of "What linguistic components must the learner acquire?" The syllabus outlines the functional skills that learners must acquire to use the language effectively in communication. This syllabus prioritises language functions, while also recognising the significance of grammatical items. Nunan (1988c). The syllabus may outline content through learning tasks and activities, rather than focusing on isolated language elements.

Situations, topics, or themes delineate the components of an analytic syllabus. Wilkins (1978) posits that the organisation of syllabus contents should align with the objectives of language learning and the types of language performance anticipated from learners in practical contexts. Communicative purposes serve as the foundation for syllabus design. As noted by Wilkins (1978), "Analytic approaches are organised in terms of the purposes for which people are learning language and the kinds of language performance that are necessary to meet those purposes." Long and Crookes (1992) identify three examples of syllabuses classified as analytic: procedural, process, and task syllabuses.

The Procedural Syllabus

The Procedural Syllabus is linked to the Bangalore Project (Prabhu, 1987) in India. This syllabus is structured around three categories of activities:

1. An information-gap activity entails the transfer of specified information between individuals, or across different forms or locations, typically requiring the decoding or encoding of information into or from language.
2. A reasoning-gap activity entails the derivation of new information from existing data through inference, deduction, practical reasoning, or the identification of relationships or patterns.
3. An opinion-gap activity entails the identification and articulation of a personal preference, feeling, or attitude in response to a specific situation.

Teaching and learning activities must be structured to establish classroom conditions that address problems indicated by the syllabus content through tasks. The activities and language utilised by students in the classroom may not align with those required in external contexts. The activities outlined in this syllabus are predetermined pedagogical tasks that may not be directly related to the target tasks. This indicates that the selection of a specific classroom task is not informed by needs analysis.

A notable feature of the Procedural Syllabus is the type of input presented to students and the lack of feedback provided. The input is not derived from graded structural items but is approximately adjusted to facilitate communication with less proficient learners (Prabhu, 1987). This approach prioritises content or message, relegating language forms to a secondary role.

The Procedural Syllabus, while possessing communicative value, has faced criticism for its insufficient rationale (Long & Crookes, 1992) and its failure to address the real-world language needs of learners, as the syllabus contents are not based on the identification of target language tasks (Nunan, 1988a). The identified weaknesses hinder the verification of the suitability of specific language activities for particular learner groups. Moreover, task grading

and task sequencing lack relevance and are primarily determined by the teacher's intuitive judgment, rendering them arbitrary. Long and Crookes (1992) highlight that the lack of feedback in syllabus-based teaching contradicts research findings (Long, 1988), indicating that a focus on forms in language instruction is advantageous for learners.

c. The Process Syllabus

The Process Syllabus, unlike the Structural and Notional-Functional syllabuses, which have fixed objectives, focuses on fostering natural language ability (Littlewood, 1991). The objectives outlined in the Process Syllabus are articulated not in terms of mastering specific grammar items, but rather in non-linguistic terms, such as completing particular topics or classroom tasks. The contexts for learning are structured and organised based on the requirements of communication skills rather than linguistic criteria. The syllabus components facilitate the utilisation of language for the creation and exchange of messages or meanings regarding various topics or tasks. The syllabus design offers contexts that support natural acquisition processes, regarded as more effective than conscious learning methods found in traditional syllabus designs, such as Structural or Notional-Functional syllabi.

This syllabus is designed to foster social engagement and problem-solving, providing learners with the freedom to express themselves through their individual learning styles and preferences. Long and Crookes (1992) articulate that the syllabus will result in a course design capable of delivering the following outcomes:

- a) overarching decisions regarding classroom language acquisition, including which students require specific knowledge, their preferred learning methods, timing, and collaboration preferences.
- b) alternative procedures for decision-making, which serve as the foundation for a potential working contract between educators and students;

- c) alternative activities, including teacher-led instruction, collaborative group work, and laboratory engagement
- d) Alternative tasks refer to a collection of pedagogical activities that students can choose to engage in during their learning process.

Nonetheless, the design of the Process Syllabus presupposes an elevated level of competence among both teachers and students. Furthermore, considering that students have the autonomy to select their preferred learning methods, it is essential to redefine the role of the teacher. The redefinition of this role may be deemed acceptable or unacceptable. The requirement for a variety of materials and resources presents an additional challenge within this syllabus. Pedagogical tasks that lack a foundation in needs identification present significant issues, resulting in arbitrariness, selection challenges, and difficulties in determining tasks and assignments.

d. The Task syllabus

The Task Syllabus was introduced in the 1980s (Long & Crookes, 1992). This syllabus employs tasks as the primary unit of analysis, in contrast to the structures, notions, or functions typically found in earlier syllabus types, such as Structural or Notional-Functional syllabuses. There has been a growing interest in utilising tasks as the unit of analysis for language syllabus development (Ellis, 1998, p. 226). Research in second language acquisition suggests that learners possess an inherent 'built-in syllabus' that drives their interest. A syllabus that employs specific linguistic items and their instructional sequence may not align with the learner's inherent syllabus. A task syllabus design prioritises content selection based on tasks instead of linguistic structures.

A task can be characterised by its target tasks (Long, 1985; Long & Crookes, 1992) and pedagogic tasks (Richards, Platt, & Weber, 1985; Nunan, 1989; Breen, 1987). These varying

approaches to tasks result in distinct methods for selecting classroom tasks. Candlin (1987) employs pedagogic criteria for task selection, whereas Long (1985a) utilises a needs analysis approach. Candlin (1987:9-10) posits that an effective classroom task should possess several key characteristics: (i) it should encourage attention to meaning, (ii) its objectives should be derived from the communicative needs of learners, and (iii) it should facilitate the sharing of information. Long (1985a:91), employing needs analysis for the selection of classroom tasks, proposes the following procedures for the development of a task syllabus:

1. Perform a needs analysis to compile an inventory of target tasks.
2. Classify the target tasks into distinct types.
3. Derive pedagogical tasks from the identified task types.
4. Identify and arrange the educational tasks to create a task syllabus.

Long and Crookes (1992) indicate that after identifying target tasks through needs analysis, the subsequent step involves classifying these tasks into specific types. Pedagogical tasks are derived from task types and organised to create the task-based syllabus. The pedagogical tasks are the activities that teachers and students engage in within the classroom setting.

Step 4 in the aforementioned procedure addresses the challenge of grading, which is a remarkably complex aspect of syllabus design. As noted by Nunan (1988c), "difficulty is the key factor in determining the ordering of items in a syllabus" (p.48). Gardner (1992:69) notes that a rigorous method for grading tasks has yet to be established, leading most syllabus designers to depend on their intuitive judgment for grading and sequencing syllabus items.

Nunan posits that tasks should be organised for learners based on their level of difficulty. Designing a task syllabus involves assessing the degree of difficulty, influenced by various factors that impact task complexity. Additionally, factors about learners' characteristics

are also present. The perceived difficulty of a specific task can vary among learners, with some finding it easy while others encounter challenges. The linguistic aspects present in a task are inadequate as a foundation for grading, as the challenges of assessment and task sequencing stem from factors both within and beyond the tasks themselves. The factors include the number of steps required to complete the task, the number of potential solutions to the problem presented, the number of individuals participating in the task, and the aspects of the task that demand cognitive resources from the learner.

Three reasons exist for classifying target tasks into distinct task types (Long, 1985a). Teaching a more general task type is more effective as it facilitates transfer to multiple sub-target tasks. Secondly, a task type is beneficial for all learners, especially those with varying academic backgrounds, including ESP learners. Third, task type facilitates the selection of pedagogical tasks, which are the activities that teachers and learners will engage in within the classroom. It is essential to ensure that pedagogical tasks align with the learners' proficiency levels. The design of the aforementioned syllabus types necessitates a needs analysis. This section discusses needs analysis in relation to syllabus design.

2.2.2. Procedures for syllabus design

The preceding sections have examined the concept of syllabus design and various types of syllabi. The primary focus of syllabus design is the methodologies that outline the process for identifying learners' needs. The subsequent sections outline the procedures for syllabus design, emphasising the identification of learners' needs, which inform the selection of syllabus items.

1. Identification of learners' needs

The first step in syllabus design involves identifying the language needs of learners. Needs analysis has been characterised in various ways from distinct viewpoints. The

definitions of needs analysis can be categorised into two perspectives: pedagogical and real-world. Nunan (1988c) defines needs analysis as the techniques and procedures employed to gather information for syllabus design (p.13). The information encompasses the rationale for acquiring the target language, limitations, and resources available for syllabus implementation. Nunan (1999) defines needs analysis as a collection of tools, techniques, and procedures aimed at identifying the language content and learning processes for specific groups of learners (p.35). This definition is more precise than the previous one.

A precise explanation of a term or concept. Brown (1995:35) offers an alternative definition of needs analysis, describing it as "the activities involved in gathering information that will serve as the basis for developing a curriculum that will meet the learning needs of a particular group of students" (p.35). Brown and Nunan (1999) define the role of needs analysis in designing a language syllabus tailored to a specific group of learners.

The concept of needs and needs analysis has generated contention within English Language Teaching communities, leading to two distinct interpretations of needs analysis (Brindley, 1984). The initial interpretation confines it to the language that learners must utilise in a specific target context. A focus on product characterises this orientation, emphasising needs analysis as a process aimed at comprehensively understanding learners' current and future language requirements, conducted prior to language acquisition. The second interpretation regards needs analysis as an activity aimed at gathering information regarding learners' needs within a learning context. This orientation is broad or process-oriented, encompassing not only the linguistic requirements but also the affective and cognitive needs of learners throughout the learning process. The needs encompass, among other factors, learners' attitudes towards learning, motivation, awareness, personality, desires, and learning styles.

Various types of needs analysis exist, each accompanied by a distinct term that denotes its specific type. Brindley (1984) distinguishes between objective and subjective

needs. Objective needs are based on various types of information regarding learners, including their existing language competencies and their requirements in practical communication contexts. Subjective needs pertain to the cognitive and affective requirements of learners within a learning context. Data regarding these needs can be gathered from the aforementioned factors, including learners' personality, confidence, attitudes, desires, and learning styles and strategies. Berwick (1993:55) proposes an additional pair of terms. He suggests that perceived needs are observable and verifiable. This concept parallels Brindley's (1984) objective needs. Berwick proposed the term "felt needs," which are derived from factors associated with learners' cognitive and affective requirements. This resembles Brindley's subjective needs. Furthermore, there exist necessities, wants, and deficiencies (Hutchinson & Waters, 1987).

Necessities refer to essential knowledge that must be acquired, while wants pertain to the subjects learners desire to explore. Lacks denote the gap between these necessities and the current proficiency in the language. Nunan (1988c) proposes learner analysis and task analysis in the context of syllabus design. Learner analysis relies on information regarding the learner, focusing on the primary question of the learner's objectives in language acquisition. Task analysis aims to identify the linguistic competencies required for the successful execution of practical tasks. Nunan (1999) presents another dichotomy by differentiating between content needs and process needs. Content needs encompass the selection and sequencing of topics, grammatical elements, functions, and notions, whereas process needs involve the selection and sequencing of learning tasks and classroom experiences. These terms refer to the various factors and perspectives employed to define the concepts of needs. This study utilises insights from objective needs (Brindley, 1984), necessities (Hutchinson & Waters, 1987), and task analysis (Nunan, 1988c) to delineate the requirements or tasks that learners must be capable of performing as tour guides. The objectives of a needs analysis include identifying the target

situations in which learners will utilise the language, determining the specific language required, outlining the tasks or activities expected of them, and specifying the language skills necessary to perform these tasks. The subjective dimension of task analysis was excluded from this study to maintain a focus solely on the objective dimension of needs analysis (Brindley, 1984).

Needs analysis can be examined from three perspectives (Dudley-Evans & StJohn, 1998). The initial approach is the target situation analysis (TSA). This analysis examines the needs of learners at the conclusion of the language course (Robinson, 1991, p. 8), including the tasks they will perform, the linguistic components necessary for these tasks, and the requisite level of subject matter knowledge for successful task completion. The second approach involves analysing the learning situation (LSA). It encompasses subjective, process-oriented requirements. This aligns with the learning needs identified in the learning-centred approach by Hutchinson and Waters (1987). In their framework, learning needs pertain to the actions required by the learner to facilitate learning throughout the course. One question in their framework for collecting data on learners' needs is, "What motivates the learners to enrol in the course?" The responses to this inquiry should reference practical objectives, which must be considered throughout the learning process.

This pertains to the objective aspect of needs analysis (Brindley, 1989). The third component is the present situation analysis (PSA). This study aims to assess the characteristics of students at the onset of the language course (Robinson, 1991, p. 9), including their proficiency levels and perspectives on language learning and instruction. Furthermore, PSA aims to assess teachers' proficiency levels, their perspectives on language learning and instruction, and the teaching context concerning the available learning resources. The PSA examines the strengths and weaknesses in language, skills, and learning experiences.

This study employs the initial approach, specifically target situation analysis, concentrating on the tasks associated with tour guiding and their linguistic dimensions. This study includes observations of language learning activities in the classroom, which constitutes one dimension of the current situation analysis. Collecting information on additional elements of the current situation analysis, as outlined by Dudley-Evans and St. John (1998), would indeed yield a more comprehensive profile of needs; however, this study does not aim to investigate all such aspects. This study aims to analyse the current situation regarding the conduct of language lessons and to determine whether target tasks and their language-related aspects were addressed during these lessons.

The three approaches to needs analysis—TSA, LSA, and PSA—can be utilised in a complementary manner (Robinson, 1991) to develop a new language program or to revise an existing language curriculum (Nunan, 1996). Language analysis has traditionally served as the foundation for language curriculum development, employing various criteria such as frequency, difficulty, and teachability of language aspects for this analysis (Richards, 1984). Current methodologies in curriculum or syllabus design initiate with a needs analysis. Current methodologies emphasise the importance of aligning program relevance with learner needs as a criterion for syllabus design development (Long & Crookes, 1992, p. 37). Brindley (1989) acknowledges the significance of needs analysis, asserting that it is a fundamental principle for teaching and learning programs to be responsive to learners' needs. He asserts that "it is now widely accepted ...that needs analysis is a vital prerequisite to specification of language learning objectives" (p.63). Jordan (1997) similarly emphasises the significance of needs analysis in syllabus design. He considers it a foundational element for developing syllabuses, courses, materials, and the various forms of teaching and learning that occur. In the field of English for Specific Purposes (ESP), needs analysis is regarded as the initial phase of course design (Robinson, 1989) and is described as a "cornerstone" of ESP courses (Dudley-Evans &

StJohn, 1998). This process involves gathering various types of information from target, learning, or present situation analyses (Robinson, 1991; Hutchinson & Waters, 1987).

Needs analysis is acknowledged as significant in both English for Specific Purposes (ESP) and task-based language programs. Advocates of task-based language programs, including Long (1985a) and Long & Crookes (1992), contend that needs analysis is essential for identifying authentic target tasks for particular learner groups, and that the outcomes of task analysis should inform syllabus design. Long and Crookes summarise the role of needs identification as follows:

Following the identification of target tasks through needs analysis, the subsequent step involves classifying these tasks into distinct types. Pedagogical tasks are subsequently generated from the types of tasks and organised to create the task-based syllabus. The pedagogical tasks are the focus of collaboration between teachers and students in the classroom. Their complexity will progressively increase as approximations to the target tasks that prompted their inclusion. (p. 44)

Ferris and Tagg (1996) and Ferris (1998) discuss the role of needs analysis in task identification within English for Specific Purposes (ESP). According to Ferris and Tagg (1996:31), drawing from the ESP literature and task-based language teaching discussions, needs assessment is crucial for course design and materials development in specific contexts. The objectives of needs analysis can vary based on the viewpoints adopted by the analysts involved. The purpose may be to describe real-world settings in which learners will utilise the target language (Johns & Dudley-Evans, 1991) or to apply the acquired knowledge as a foundation for change in the target context (Benesch, 1996). Despite the variations, the significance of needs analysis as a foundational element in identifying tasks, language skills, and linguistic features is broadly recognised.

The creation of needs-based or task-based courses faces criticism. Widdowson (1984) critiques the notion that needs analysis and precise task identification may lead to atomisation or a collection of separate language skills. Instructing discrete language skills constitutes a training regimen that results in learners possessing restricted communicative competence. Widdowson asserts that effective language instruction involves guiding learners in developing their communicative capacity. Students must apply the language skills acquired in the classroom to address language challenges encountered in real-world situations for which they have not received explicit instruction. Widdowson elucidates that a needs-based program,

It involves delineating a specific linguistic domain and utilising this delineation as a course framework to equip learners with the requisite limited proficiency to navigate this domain effectively. It is posited that the ESP functions primarily as a training exercise. In certain forms of ESP, training may be beneficial, as it addresses a limited range of behaviours where the formulas and problems to be solved are closely aligned. This is likely applicable to the communication practices of air traffic control. However, it is clear that the English taught cannot suffice when it is meant to support fundamentally educational objectives. Widdowson (1984, p. 10)

Widdowson correctly asserts that teaching limited competence does not lead to overall communicative ability. The effectiveness of a language course appears to be contingent upon the methodologies employed in teaching and learning, as well as the anticipated level of proficiency. The outcome is not solely contingent upon the specification of the learned material or course content; rather, it pertains to the methodology employed. The assertion that ESP functions primarily as a training exercise, leading to limited competence, requires empirical investigation. Nunan (1999) contends that the educational potential of a course is more dependent on the types of learning experiences offered than on the content chosen

(p.155). This argument emphasises the need for a language program to design tasks that focus on developing essential language skills.

One critique of needs analysis posits that it lacks relevance in many foreign language contexts, as learners often do not have immediate requirements for utilising the language (Nunan, 1999). Nunan contends that, in these circumstances, the sole justification for language courses should be educational. Learners pursue the study of a foreign language not primarily for practical use, but to enhance their cognitive, affective, interpersonal, and intercultural skills, knowledge, and attitudes.

This assertion holds in the majority of educational institutions where English is mandated as a core subject. In these institutions, English is instructed as a means of preparation for advanced education or for broader objectives. In certain educational institutions, such as the School of Tourism, where English is taught for specific purposes, students exhibit immediate communicative needs. They require language skills for professional use upon completing their education. Individuals acquire English to prepare for employment opportunities that necessitate proficiency in communication within the language.

2. Selection of syllabus content

The subsequent step in syllabus design involves selecting the content. The components of a syllabus are based on a needs analysis. The literature addressing content selection for a syllabus is comparatively limited in scope when contrasted with needs analysis. Nunan (1988c) states that synthetic syllabuses, including structural and functional syllabuses, derive their content based on discrete point principles (p.75). The foundation for content selection is the grammar or structural elements of the language. The structural syllabus includes a list of components, such as nouns, quantifiers, tenses, and modal verbs. In a functional syllabus, the contents may include expressing preferences, determining attitudes, requesting information,

and articulating agreement or disagreement, among other skills. The task-based syllabus, as part of analytic syllabuses, derives its content from the communicative purposes for which language is utilised, rather than from structural elements. Syllabus items for analytic syllabuses represent authentic tasks typically performed in real-world contexts. In instructional settings, these tasks are adapted to serve as language learning activities within the classroom (Long, 1985; Long & Crookes, 1992).

3. Sequencing and grading of syllabus components

The third step in syllabus design involves sequencing or grading. This involves systematically organising syllabus items to facilitate instructional guidance. The principles for sequencing and grading syllabus items differ based on whether the syllabus is synthetic or analytic, as previously noted under Types of Syllabuses. In a synthetic syllabus, items are organised according to their simplicity and complexity (Nunan, 1988c). This ordering principle has faced significant criticism, as it fails to represent language use where multiple structural elements are employed in complex ways to convey meanings (Long & Crookes, 1993). In an analytic syllabus, the items are organised and classified based on,

The number of steps required, the variety of solutions available to a problem, the number of parties engaged, the prominence of distinguishing characteristics, the temporal and spatial context of the task, the volume of language necessary, the number of competing sources for attention, and additional factors contributing to the intellectual challenge presented by the task. (Long and Crookes, 1992, p. 44)

The criteria for sequencing syllabus items are complex, as they encompass both the inherent characteristics of the tasks and the diverse individual differences among the speakers participating in the learning activities.

Each sequencing principle presents both advantages and disadvantages. The principle of simplicity and complexity within the synthetic syllabus would simplify the teaching process. Linearly teaching structural items does not reflect the reality of language use, where multiple structures are employed concurrently. Conversely, the criteria for sequencing content within an analytic syllabus are intricate; however, instruction in this framework aims to mirror the actual use of language for communicative objectives.

Table 1. An English for Medical Purposes syllabus adopted from The National Center for Teacher Education, FACULTY OF ARTS AND LANGUAGES

<i>Course Number</i>	ENP-301
<i>Course Title</i>	English for Nursing Purposes
<i>Course Pre-requisite</i>	None
<i>Course Description</i>	This course will explore the conceptual, theoretical, and ethical underpinnings of nursing that will extend their use of the English language as a nursing practitioner. Selected principles and frameworks of nursing will be analyzed with emphasis on written and spoken nursing practices and different language experiences.

<i>Program Specialization Outcomes</i>	✚ Utilizes concepts, theories, and principles of nursing as content areas for learning development integrating language features ✚ Incorporates nursing and healthcare knowledge, skills and attitudes to ensure safe, quality and effective nursing practices ✚ Observes ethico-moral values and legal responsibilities in nursing practices ✚ Practises the professional and ethical nursing framework in accordance with the nursing profession's codes of ethics and conduct ✚ Undertakes the nursing process in the care of individuals, families and communities ✚ Uses healthcare resources effectively and efficiently to promote optimal nursing and healthcare practices ✚ Assumes social and moral responsibilities for personal and professional growth
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	Course Learning Outcomes	Performance Indicators	Course Content	Instructional Delivery	Assessment
Session 1	Course Orientation				
Sessions 2-3	Identify and demonstrate understanding of the concepts of health and nursing. Differentiate the qualities and roles of a nurse to effectively function as a nursing	Accomplish a lexicon booklet which contains a number of words encountered in the session. Create an information graphic of the qualities and roles of	nurse and Nursing as a Profession 1. Definition of Health 2. Concept of Health. 3. Definition of Nursing and Nurse.	Lecture Small group discussions Group presentations/ Dynamics	Rubrics Recitation Exit slip

	practitioner s. Compare and contrast the major types of hospitals and describe its function	a nurse showing their differentiati on. Complete a graphic organizer of hospital types and functions.	4. Qualities of Nurse. 5. Functions of Nurse. 6. Definition of Hospital. 7. Types of Hospitals. 8. Function of Hospitals.		
Sessions 4-7					Rubrics

	Demonstrate deeper understanding of the nursing process through dramatization. Analyse and examine the fundamental rules for nursing in the local and international level.	Accomplish a lexicon booklet which contains a number of words encountered in the session. Prepare a role play or simulations showing their understanding of the nursing process. Establish a panel	Principles and Practices Definition of Nursing process 2. Steps in Nursing process 3. Fundamental Rules for Nursing 4. Code of Ethics in Nursing	Lecture Expert Talk/ TED Talks Video clips	Recitation Peer critiquing
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	Discuss Code of Ethics in Nursing and the Florence Nightingale Pledge and explain how these relate to and impact on nursing practice. Administer basic knowledge and skills in the nursing practice to effectively deliver	discussion about the fundamental rules and Code of Ethics. Create a blog or a video blog about the skills and concepts in the nursing practice towards patient services.	5. Florence Nightingale Pledge 6. Admission of Patient 7. Orientation to the Ward 8. Recording Patient Information		
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	services to patients.		9. Monitoring of Patient 10. Discharge of Patient		
Sessions 8-9	Identify the proper practices done in order to maintain cleanliness and proper sanitation of the patients at all times to give them their	Accomplish a lexicon booklet which contains a number of words encountered in the session.	Patient Care and Comfort 1. Hygienic Needs 2. Safety & Comfort Needs	Video presentation Demonstration Teaching/ Simulation Short Lecture	Rubrics Recitation Peer Critiquing

	maximum comfort. Demonstrate the proper way of handling the belongings of patients and on how to give it properly to their family Show the proper way of arranging and fixing the patient's bed in order to provide an optimum	Produce a short infomercial about the proper way of handling patients and their belongings.	3. Care of Belongings 4. Bed & Bed Making 5. Body Mechanics and Positioning 6. Moving, Shifting and Lifting Patients		
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	patient's convenience. Enumerate the proper positions of the patients and demonstrate how the nurse will properly move, shift and lift them to achieve maximum comfort.				

Referenc es	•Baby, P. , Jaya, N. , Elizabeth, M. , Subbaiyan, K. (2010). Nursing Theory. Chennaie: Tamilnadu Textbook Corporation •Brinton, D. (2010). English for Specific Purpose- EDUC 590. Retrieved from http://web-app.usc.edu/soc/syllabus/20102/27208 •(September 8). Medical English Syllabus. Retrieved from http://www.johokan.jp/gogaku_ryugaku/AbilityMedical_English.pdf
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3.1. Needs Analysis for EMP Contexts

3.1.1. What constitutes "Needs"?

English language courses are essential for the intellectual and linguistic development of college students and their success in higher education. Nevertheless, the purpose of the language course is frequently overlooked. Do college students enrol in language courses due to policies aimed at enhancing communication competency in higher education? Is the language course exclusively intended for college or university students? Regardless of the significance of a policy, it is essential to examine the rationale behind offering language courses and the benefits they provide to college students. Identifying the needs of language learning and usage is essential in higher education. Language educators and professionals must develop syllabus designs and prepare relevant materials to address learner needs. The needs may refer to the current or future requirements of learners, specifically "the students' study or job requirements, that is, what they have to be able to do at the end of their language course" (Widdowson, 1981, p. 2). Needs are defined by societal, organisational, and specifically linguistic program and instructional contexts (Mountford, 1981). Basturkmen (1998) identified language needs as a critical factor in recognising the disparity between learners' current proficiency and their target proficiency, significantly impacting the development of syllabus design, curriculum, and

instruction. Needs are characterised as the goals, desires, preferences, expectations, and necessities of language learners (Hyland, 2014; Richards, 2013). Students' needs may include their awareness of language proficiency and their motivations for enrolling in a course (Hyland, 2014). Brown (2016) recently defined language needs as "sets of judgments and compromises justified by observation, surveys, test scores, language learning theory, linguistics" (p. 16). A needs analysis serves as a systematic investigation of learners' requirements for syllabus design, curriculum development, and instructional strategies in education.

Al-Ahdal (2010) and Ibrahim (2010) describe needs assessment as a systematic process aimed at identifying objectives for effective curriculum design by outlining the requirements, desires, and deficiencies of learners. Faraj (2015) defines a needs assessment as a systematic process designed to identify suitable educational resources and methods for an ESP context.

The lack of student interest and engagement leads to poor performance in class, which in turn results in lower grades (Kazem & Fatemeh, 2014). Recent research by Ghalandari and Talebinejad (2012) indicates that for instructors, course designers, and material writers to achieve optimal outcomes in practical learning, it is essential to incorporate learners' demands as a fundamental component of the syllabus. Sabbou, Dewedar, and Kandil (2010) argue that assessing students' learning needs is the most effective approach to obtaining feedback that improves language acquisition.

In the realm of teaching English as a second language, prioritising the educational needs of students is essential (Jane Koch, MA et al., 2011). Heming and Nandagopal (2012) noted that most research on ESP education primarily focused on health science ESL students, as indicated by Molnar (2011). This highlights the need to adjust our perspective for future research in this domain.

ESP classes for medical students primarily focus on "subject-specific vocabulary and related modifiers," although students report challenges with general vocabulary (Heming & Nandagopal, 2012). It is advisable to support children in meeting this need by expanding their vocabulary comprehensively.

The lack of research on the English language proficiency of medical students notably hinders the effective development of medical education curricula, resulting in a disregard for the varied competencies of students (Faraj, 2015). Identifying the English language support needs of medical students is crucial for effectively tackling the challenges they face in their academic pursuits (Faraj, 2015).

A substantial proportion of first-year medical students face notable difficulties with medical English. This challenge stems from the presence of specialised vocabulary and structures that are not familiar to the individuals (Faraj, 2015). It is important to note that many English language courses emphasise translation techniques rather than the development of students' communicative and functional language skills (1). Doley (2010) argues that a medical English curriculum must include all four essential components of the English language—speaking, listening, writing, and reading—to meet the communicative competence needs of students. The content must include both medical and general vocabulary, as well as proper English grammar and syntax.

The prevalence of medical textbooks and academic articles in English highlights the significance of reading proficiency in this field. The actions to be undertaken are, in order, listening, writing, and speaking (Lu & Corbett, 2012).

Analysing Cummins' model would aid in identifying appropriate language teaching methods for EFL students, taking into account the cognitive processes that promote second language acquisition and the English language competencies necessary for medical school

(Doley, 2010). Cognitive Academic Language Proficiency (CALP) and Basic Interpersonal Communication Skills (BICS) are the two primary domains of language acquisition, as described by Cummins (Caputi, Engelmann, & Stasinopoulos, 2006). CALP is acquired in a classroom setting, whereas BICS is obtained through social interactions, with a focus on developing listening and speaking abilities. The articulation of complex theoretical concepts is necessary (Doley, 2010). Research indicates that insufficient CALP levels may significantly contribute to students' poor academic performance (Salamonson, Everett, Koch, Andrew, & Davidson, 2008). Milosavljević (2008) asserts that improving students' speaking and writing skills most effectively meets their needs related to social and economic status. Integrating both BICS and CALP into curriculum development represents a strategic method to address social and economic requirements alongside academic goals.

3.2.2. Conceptual Framework for Needs Analysis

The definition of needs in the educational landscape has a lengthy historical context. Tyler (1949, p. 6) articulates that in curriculum and instruction, needs are defined as follows:

Research on learners indicates that educational objectives emerge only when learner information is juxtaposed with desirable standards or acceptable norms, allowing for the identification of discrepancies between the learner's current state and the established norm. This disparity is commonly referred to as a need.

According to Tyler's definition, these needs are primarily inferred and predominantly recognised by educators. Educators perceive inferred needs as the requirements of learners, even though the learners themselves do not explicitly express these needs. Noddings (2005) emphasises that, alongside inferred needs, teachers must allow learners the opportunity to express their own needs both verbally and behaviourally. The expressed needs enhance the inferred needs. Consequently, it is essential to negotiate needs, as learners must comprehend

the relationship between their instructed learning and real-life requirements, as well as how learning goals and objectives align with their personal interests, investments, and plans. This positioning indicates that educators should prioritise the articulated needs of students while also striving to address both the inferred needs identified by teachers and stakeholders, as well as the expressed needs communicated by the learners themselves. Noddings (2005, p. 158) asserts that the objectives of education extend beyond merely achieving high grades and test scores. Ongoing reflection on objectives should help reconcile articulated and implied needs.

The terms "needs analysis" and "needs assessment" are frequently used interchangeably in curriculum development literature. However, Graves (1996, p. 12) contends that they differ in terms of process. She stated, "as Susan Pomeroy once suggested to me, they refer to separate processes: Assessment involves obtaining data, whereas analysis involves assigning value to those data." She further argues that needs assessment, or needs analysis, is not a value-neutral process. The teacher's perspective on the course content, institutional limitations, and students' interpretations of expectations significantly influence the learning process (Graves, 1996, p. 16). The article consistently employs the term "needs analysis," which pertains to the collection, analysis, and interpretation of empirical data obtained during the design, implementation, and evaluation of ESP curriculum development.

Needs analysis is inherently goal-oriented, context-dependent, and specific to particular populations (Krohn, 2009). It is subject to change due to the emergence of various competing needs and vested interests (Flowerdew, 2013b). Over the past thirty years, research on needs analysis has focused on the requirements of various learner groups in academic, professional, occupational, and survival contexts (Krohn, 2009, p. 260). This needs analysis encompasses individual, institutional, and societal levels. Needs analysis encompasses multiple dimensions, including individual learners, stakeholders such as teachers, parents, and employers, as well as institutions and broader societal contexts. Consequently, the concept of needs analysis is

challenging to define because of the multitude of competing and overlapping needs and vested interests.

Vandermeeren (2005) distinguishes between 'language needs' as articulated by language users and learners—reflecting their perceived requirements for language use and training (such as improved proficiency in a specific language or reduced emphasis on grammar instruction)—and 'need,' which is regarded as an objective criterion that one should possess (p. 159). The author contends that needs analysis is inherently subjective. Needs cannot be understood as a singular, comprehensive construct that reflects an individual's learning gaps, objectives, and/or progress (p. 272). West (1994, as cited in Cowling, 2007) defines needs as "what learners will be required to do with the foreign language in the target situation, and how learners might best master the target language during the period of training" (p. 427).

Hutchinson and Waters (1987) categorise needs into two main types: target situation needs and learning needs. The former pertains to the actions required by the learner in the target situation, while the latter focuses on the actions necessary for the learner to acquire knowledge.

The authors categorise target situation needs into three distinct groups: necessities, lacks, and wants. Necessities refer to the essential knowledge required for a learner to operate effectively within a specific context (Hutchinson & Waters, 1987, p. 55). Learners need to acquire familiarity with language, knowledge, and discourse to function effectively within a specific domain of discourse community. Lacks refer to the "necessities the learner lacks" (Hutchinson & Waters, 1987, p. 56). This pertains to the language, knowledge, and discourse that learners possess and require to operate effectively within the target discourse community domain. Addresses the preferences and perceived needs of learners (Hutchinson & Waters, 1987, p. 57). This perception aims to recognise the active role of learners in identifying their own needs. While it may vary from the requirements of stakeholders, it influences learning

effectiveness. The final broad category of needs, learning needs, encompasses various factors, including learners' backgrounds, motivations, learning styles and strategies, available resources, course characteristics, constraints, and other elements that influence the fulfilment of students' learning needs. The two interrelated subconstructs of needs assist ESP teachers in addressing learners' internal needs, such as the application of language in specific contexts, external institutional demands, including the necessity to study a language for improved work or educational opportunities, and the social psychology of learners, courses, and resources. Various international and external factors conceptualise needs as dynamic and context-dependent due to the unique target situations and learning requirements of different pedagogic environments.

Brindley (1989, p. 70) characterises objective needs as those that can be inferred from various factual data regarding learners, their language use in authentic communication contexts, and their existing language proficiency and challenges. Brindley (1989, p. 70) defines subjective needs as the cognitive and affective requirements of learners within a learning context, which can be inferred from data concerning various affective and cognitive elements, including personality, confidence, attitudes, learners' desires and expectations related to English learning, as well as their unique cognitive styles and learning strategies. This etic needs analysis is typically combined with a subjective needs analysis, allowing learners to express their own needs regarding both the target situation and learning requirements. In this context, learners participate in making pedagogical decisions. This learner-centred perspective enables ESP instructors and course designers to understand learners' needs and aspirations, while also empowering learners to influence content selection, thereby fostering "learner investment and participation" (Belcher, 2006, p. 136).

Needs should be regarded as resources for comprehensively understanding the histories, social and cultural values, beliefs, and identities of learners. The degree to which learners

understand their target situation and learning needs is influenced by their histories, values, beliefs, and identities. Needs must be considered both as short-term and long-term investments that encourage learners to ignite their interest and passion for developing English, which is essential for functioning within their specialised or disciplinary domain. Inferred needs (objective, emic) and expressed needs (subjective, etic) are closely interconnected, encompassing two domains: current and future social discourse communities, such as educational institutions and workplaces. Consequently, needs must be understood distinctively from specific conceptual frameworks.

3.2.3. Approaches to Needs Analysis: Theoretical Perspectives

Based on sociological, anthropological, and educational theories, several established approaches to needs analysis for ESP curriculum development exist.

1. Situational Analysis

Situational analysis is integral to the curriculum development process. This approach to needs analysis is dynamic. Brown (1995, p. 36) defines needs analysis as the systematic collection and analysis of both subjective and objective information required to establish and validate curriculum purposes that meet the language learning needs of students within the context of specific institutions that affect the learning and teaching environment. The situational approach highlights the investigation of needs through complex and diverse situational factors, as the contexts for language programs encompass various dimensions or variables relevant to specific situations. Factors such as political, ideological, social, economic, historical, cultural, and institutional aspects influence the implementation of language programs. Within the context of English for Specific Purposes (ESP), four primary institutional programs exist: academic, professional, occupational, and vocational. Various factors shape these programmes, potentially influencing their implementation.

Situational analysis, as described by Richards (2001), is also referred to as environmental analysis. It entails examining the factors relevant to the context in which the course will be implemented and assessing how the course should address these factors (Nation & Macalister, 2010, p. 2). This environmental analysis highlights the interdependence of teachers, students, and contexts in the design of language programs. This analysis critically examines local and environmental factors, which entails assessing both local and broader contexts to ensure that the course aligns with and satisfies local needs (Nation & Macalister, 2010, p. 21).

Environmental or situational analysis encompasses both micro-level and macro-level evaluations. The micro-level environment encompasses schools, classrooms, administrators, teachers, and learners. The macro-level environment encompasses various dimensions of societal institutions, including sociopolitical, socio-historical, socioeconomic, sociocultural, sociopsychological, ideological, and mobility factors. These factors indicate a complex and multi-layered situational analysis regarding needs assessment.

A situational analysis assesses the context of the target situation for a medical English course, encompassing the setting, users, and particular communication tasks. A needs analysis identifies learners' current and desired proficiency levels, their deficiencies, and their specific requirements for vocabulary, skills, and motivation. Situational analysis identifies the "what" (the medical environment) and "who" (the audience), whereas needs analysis determines the "how" (the knowledge and skills learners require) to bridge the gap between their current capabilities and future achievements. A situational analysis establishes the framework for an effective English for Medical Purposes (EMP) program, whereas a needs analysis details the specific elements.

2. Task-Based Approach

A task-based approach to needs analysis focuses on identifying the target tasks and the corresponding learning tasks that learners can execute. The analysis results inform the classification and sequencing of pedagogic tasks. Prabhu first introduced the concept of tasks in the context of the Bangalore project, which aimed to develop a comprehensive syllabus based entirely on tasks within a communicative curriculum framework (Pica, 2008; Robinson, 2006). Various scholars propose distinct definitions of tasks within second language acquisition (SLA) theories (Widodo, 2015). The objectives of implementing a task-based approach to needs analysis involve converting real-world tasks into educational activities that are relevant to learners' needs and interests.

Ogilvie and Dunn (2010, p. 162) define tasks by synthesising various definitions from previous literature. They characterise tasks as (a) language learning activities centred on meaning, (b) activities with a distinct goal or outcome, and (c) activities that mirror language use in "authentic" non-pedagogical contexts. Robinson (2006) categorises tasks according to behavioural, information-theoretic, and ability requirements approaches. A task is defined from a behavioural perspective as "what people actually do while performing a task" (p. 9), encompassing the subtasks and steps necessary for its execution. From an information-theoretic or cognitive perspective, tasks are facilitated by cognitive processing, which conveys input to the individual performing the task. Tasks are delineated based on the cognitive abilities required for their effective execution. Ellis (2003, p. 3) asserts that tasks necessitate learners to operate primarily as 'language users,' engaging in communicative processes akin to those found in real-world activities. A task can be considered "situationally authentic" by incorporating real-world activities, such as purchasing a bus ticket, buying a notebook online, and opening a bank account. Additionally, it should be "interactionally authentic" by employing language-mediated activities that reflect actual language use (Ellis, 2003, p. 6).

Long (2000) defines tasks as a fundamental unit of analysis in the design of second language courses. He distinguishes three levels of task analysis: target tasks, task types, and pedagogic tasks. The initial level of analysis, target tasks, focuses on the activities individuals engage in during everyday social interactions, such as negotiating contracts or making alterations to hotel reservations. The second level of analysis involves categorising target tasks into distinct types, which serves as a foundation for course design aimed at addressing the needs of diverse learner groups through the integration of each target task with others. The final level of analysis involves the development and sequencing of pedagogic tasks as instructional materials that learners engage with both inside and outside the classroom. This approach provides learners with opportunities to enhance various aspects of their L2 abilities, which are essential for completing tasks in out-of-class interactions and future careers. Target and pedagogic tasks are significantly influenced by code complexity, encompassing both linguistic and discoursal levels, as well as cognitive complexity, which includes familiarity with tasks, genres, organisation, and other cognitively mediated factors, as well as communicative stress related to interactional demands.

In ESP contexts, tasks vary significantly based on specific ESP domains, including academic, professional, occupational, and vocational areas. In the vocational secondary education sector, tasks must be structured to enable vocational learners to utilise English effectively for target tasks in their professional and academic pursuits. Simultaneously, it is essential to provide learners with opportunities to engage in learning tasks pertinent to their vocational field. Based on Long's (2000) work, tasks can be categorised and organised according to three analytical levels: target tasks, task types, and pedagogic tasks. Target tasks focus on vocational activities performed by practitioners in vocationally oriented environments, such as negotiating software design, making online hotel reservations, and preparing annual accounting reports. The vocational tasks are classified into types that serve as a foundation for

developing pedagogic tasks, mirroring authentic vocational tasks in work and study environments. The development and sequencing of pedagogic tasks as vocational materials for learners are essential to provide ample opportunities for experiencing various aspects of language ability and specialised domains necessary for task completion, both inside and outside the classroom.

A task-based approach to needs assessment in English for Medical Purposes (EMP) focuses on identifying the specific real-world tasks that healthcare workers must do in English. As part of this technique, you assess the language skills that individuals need to perform their professional tasks (such as interviewing patients, presenting cases, or reading medical texts) and then develop a course curriculum and resources to help them master those abilities. This strategy ensures that the training is both practical and up-to-date, which helps improve fluency and accuracy in an occupational setting.

3. Ethnographic Approach

Ethnography serves as a crucial investigative tool across various disciplines, characterised by a reflexive process that encompasses several key steps: (a) selecting and sampling cases, (b) gaining access and negotiating with gatekeepers, (c) observing and interviewing, (d) recording and managing data, and (e) analysing the data and composing a research report (Hammersley & Atkinson, 2007). According to Hammersley and Atkinson (2007, p. 7), an ethnographically oriented needs analysis should be conducted in a manner that is attuned to the characteristics of both the setting and the phenomenon under investigation. The primary objective is to elucidate the events, perspectives, and discourse of the individuals involved regarding their actions and those of others, the contexts surrounding these actions, and the subsequent outcomes. These characteristics are significant in ethnographic research.

The application of an ethnographic approach to the revision and redesign of English language programs is a well-established practice in the field of English for Specific Purposes (ESP). Swales (1985, p. 219) posited that detailed analyses of communication practices within specific occupations merit investigation. According to his assertion,

Understanding texts involves not only their content but also their contextual roles. This includes examining the values, both congruent and conflicting, attributed to them by various occupational, professional, and disciplinary affiliations. Additionally, it is essential to consider the expectations these affiliations have regarding the structures of the genres they engage with, such as monographs, textbooks, lectures, examination papers, memos, minutes, and testimonials.

Ramani, Chacko, Singh, and Glendinning (1988, p. 84) demonstrated the application of ethnography for needs analysis and the revision of a teacher-centred syllabus. Their needs analysis incorporated perspectives from students, subject specialists, and language specialists. The analysis comprised four primary steps, which included:

Step 1: Observe students in their natural academic environment.

Step 2: Enquire about students' communication practices, needs, and challenges.

Step 3: Consult subject specialists.

Step 4: Engage with language specialists.

Ramani, Chacko, Singh, and Glendinning's ethnographic needs analysis illustrates that participant observation and interviews facilitate comprehensive descriptions of the communicative practices and requirements of scientific communities. Furthermore, it demonstrates how these descriptions can inform the development of a more pertinent English

for Specific Purposes (ESP) program for scientists and researchers. Gimenez (2001) conducted an ethnographic participant observation study to analyse business negotiation patterns among businessmen from various non-English-speaking countries. This fieldwork aimed to guide the design of business English courses and the development of English materials. Hyland (2006, p. 66) articulates that ethnographic needs analysis aims to (a) provide a comprehensive, detailed, and "thick" description (Geertz, 1973); (b) present an insider's perspective, prioritising the significance of the event or situation for participants; and (c) deliver an account based on data gathered from various sources that contributes to a conceptual framework.

Furthermore, within an ethnographic framework, ESP practitioners and researchers serve dual roles as needs analysts and ethnographers. In fulfilling this role, they connect empirical data to needs analysis and gain a longitudinal understanding of the data's context. The extended examination of context facilitates the ongoing development of knowledge as data. Data are defined as texts produced or created by both researchers and participants, with researchers regarded as external members of social discourse communities. Ethnographic efforts enable ESP practitioners and researchers to bridge the gap between theory and practice, as well as between the researcher's knowledge and that of the subjects being studied.

Ethnographic needs analysis aims to comprehensively understand the roles of actors within the educational landscape, their behaviours, and their interactions with one another. The study seeks to elucidate participants' beliefs, values, perspectives, and motivations, as well as how these elements evolve or vary across different contexts. An ethnographic approach is particularly pertinent as an investigative tool for needs analysis, encompassing access negotiation, observational scrutiny, sensitivity to various layers of reality or discourse, and multidimensional interpretations of these realities or discourses.

An ethnographic approach to needs analysis in English for Medical Purposes (EMP) involves immersing the researcher in a medical setting to observe and understand the genuine communication needs of healthcare professionals and patients. This approach goes beyond traditional surveys to reveal hidden behaviours, communication barriers, and the social and cultural context of their work, thereby aiding in the creation of more effective language curriculum design and interventions. Methods employed consist of participant observation, interviews, and document analysis to yield a thorough understanding of the linguistic requirements in specific medical contexts.

1. Narrative Approach

Narratives, or accounts of experience and life, are regarded as a means of human sense-making. They serve as a reflection of reality, being uniquely (re)constructed within various social contexts. Clandinin and Connelly (2000, p. 50) define narratives as personal and social interactions that encompass the past, present, and future, while also integrating the concept of place as a situational factor. This framework establishes a metaphorical three-dimensional narrative inquiry space, characterised by temporality as one dimension, personal and social aspects as a second dimension, and place as the third dimension. This set of terms delineates any specific inquiry within a three-dimensional framework. Studies possess temporal dimensions and engage with temporal issues; they emphasise both personal and social aspects in a manner suitable for the inquiry, and they take place in particular locations or sequences of locations.

According to Webster and Mertova (2007, p. 1), narrative serves as a means to encapsulate "human experience through the construction and reconstruction of personal stories." Individuals interpret their lives based on the narratives they encounter daily. Stories

are continually reconfigured in response to new events, as they are influenced by ongoing personal and communal narratives (Webster & Mertova, 2007, p. 2).

Narrative has a longstanding tradition in language curriculum design, teacher education, and teacher professional development (Barkhuizen & Wette, 2008; Macalister, 2012). Narratives in the educational domain can encapsulate the perspectives of insiders regarding their specific experiences of life and reality, including those of learners, families, teachers, and administrators. Macalister (2012) illustrates the use of a narrative frame as a needs analysis tool for gathering storied snapshots in the development of an English language curriculum, highlighting its influence on the curriculum design process. A narrative serves as an investigative tool that illustrates how individuals perceive the world through their stories.

A narrative serves as a crucial analytical instrument in needs analysis, facilitating the exploration of individuals' needs concerning tacit or unobservable constructs (such as beliefs, opinions, values, and attitudes) alongside observable actions (including the practices of teachers and students). Narratives enable stakeholders to improve their understanding of language use in English instructional contexts, among others (Razfar, 2012). Experiential narratives serve as valuable data sources for needs analysis, considering the storytellers, context, agency, and medium involved. Researchers can examine a variety of narrative sources, including oral, written, and visual texts, field notes, journals, participants' diaries or photo novellas, and their own commentaries, as well as related cultural representations and records of significant realities in both their lives and those of their interviewees. Narratives, as accounts of experience, encapsulate diverse worldviews and articulated needs.

A narrative approach to needs analysis in English for Medical Purposes (EMP) utilises stories to identify the language requirements of learners in healthcare settings, complementing traditional surveys by collecting detailed, contextual information on communication challenges

and experiences. This strategy involves analysing written and spoken narratives from medical professionals and students to understand the "lived experience" of illness and treatment, inform curriculum development, and improve empathy and communication skills.

5. Corpus Approach

A corpus, defined as a collection of texts in electronic form, has been extensively examined and documented within the field of corpus linguistics, particularly in relation to its compilation and analysis (Cheng, 2012). The volume "Perspective on Corpus Linguistics," edited by Viana, Zyngier, and Barnbrook (2011), evaluates the advantages and disadvantages of corpus usage across various fields, including historical linguistics, pragmatics, sociolinguistics, discourse analysis, and English for Specific Purposes, among others. Initially, it is essential to distinguish between a text and a corpus.

Corpora assist English teachers and students in making informed decisions regarding the vocabulary and grammar (lexico-grammar in functional linguistic terms) necessary for learning, the frequency of their occurrence in communicative contexts, the contextual construction of lexico-grammatical items for meaning-making, and their coherence within texts. This tool enables students in the ESP context to develop personalised corpora tailored to their specific learning tasks, thereby enhancing pedagogical relevance for both English teachers and students. Corpora assist ESP practitioners in identifying actual language use while also requiring expertise in specialised knowledge and collaboration with subject matter teachers. They offer teachers and students extensive resources for vocabulary and grammar in context via concordances. This example illustrates the contextual usage of the word "worth" as demonstrated by concordance data (refer to Figure 4). The subsequent figure illustrates concordance lines that elucidate meanings derived from word usage. Dictionary entries can augment these concordance data.

In the analysis of language samples utilising corpora, Flowerdew (2004, p. 21) identifies several pertinent criteria, including:

- The specific purpose of compilation, such as investigating a particular grammatical or lexical item;
- Contextualisation: the specific setting, participants, and communicative purposes, such as a job interview involving a candidate and a panel of interviewers;
- Genre, such as promotional (e.g., grant proposals, sales letters);
- Discourse type, e.g., biology textbooks, informal dialogue;
- Topic, e.g., economics;
- English variety, e.g., English learner.

The potential application of corpora as a needs analysis tool enables ESP practitioners to demonstrate specific language uses, facilitated by corpus linguistic software that allows for the exploration of various language features. A corpus functions as textual software that captures not only the structural patterns of language, such as vocabulary and grammar, but also illustrates how these patterns convey specific meanings; therefore, form and meaning are fundamentally interconnected.

Corpus linguistics is a methodological tool that offers authentic data on language usage for the development of teaching syllabi and materials. This survey helps ESP practitioners assess language requirements. This analysis examines the context in which linguistic features, including vocabulary and grammar, exist within texts to convey specific meanings. A corpus analysis involves not only the compilation of concordance data but also its interpretation, as corpora do not inherently offer ESP practitioners pre-existing interpretations of the data. Corpora facilitate informed decisions about language use in context and provide a basis for developing teaching materials derived from external linguistic resources. A corpus serves

as an analytical tool for examining specific lexico-grammatical characteristics and the context of communicative environments across various genres, discourses, topics of interest, and aspects of the English language. Viana, Zyngier, and Barnbrook (2011) propose that corpus samples must be adequately described to ensure representativeness. A corpus-driven needs analysis should incorporate a diverse array of concordance data.

A corpus-based approach to needs analysis in English for Medical Purposes (EMP) involves utilising comprehensive collections of medical texts (corpora) to identify the authentic linguistic needs of students and professionals. This method quantifies the frequency of specific words, phrases, and structures in actual medical communication. This facilitates the development of EMP curricula that are more targeted than prior approaches. The methodology may involve compiling a specialised corpus of medical textbooks and research articles, assessing the vocabulary load in comparison to standard English, and subsequently utilising these findings to design the course.

6. Discourse Approach

Discourse studies represent an expanding domain focused on the socio-historical analysis and interpretation of texts across various disciplines, including communication studies, cultural studies, educational studies, literary studies, media studies, and linguistics (Flowerdew, 2013). These texts depict actors, activities, or practices as processes, contexts, and other pertinent discourse elements, such as documents functioning as social artefacts. Discourse is inherently interdisciplinary, as it is not confined to any specific disciplinary or methodological framework. The process entails the integration of multiple disciplines to analyse the representational meanings of social actors, practices, contexts, and various semiotic systems or artefacts. Discourse functions as a methodological instrument for analysing beliefs, values, worldviews, and practices within verbal, written, and visual texts as social semiotic

artefacts. Language serves as a medium for expressing and situating specific discourse, whether mediated through virtual means or occurring face-to-face. It encompasses not only vocabulary and grammar but also functions as a resource for constructing meaning (Halliday, 1978) and as a mechanism for social action, with historical foundations in cultural anthropology and ethnography (Lemke, 1990). Discourse analysis seeks to interpret actions or events as social activities that embody multiple meanings, such as social identities, within specific contexts, including the discourse that occurs during a hotel check-in encounter.

Discourse analysis has been a topic of interest across various disciplines, including education. Education serves as a contested arena where beliefs, social interests, and values of the broader community converge, as the stakeholders involved originate from this larger social context. Classrooms, as integral components of educational institutions like schools, significantly influence the (re)construction of learners' educational needs. Curriculum materials, school administrators, teachers, and other school artefacts, such as learning facilities, are contributing factors, alongside external influences like globalisation and workplace demands, in the reconstruction of these needs. A discourse approach, grounded in linguistic and sociological contexts, serves as an effective method for analysing the narratives of stakeholders involved in educational innovation and change, as well as curriculum materials or artefacts (such as curriculum documents, lesson plans, syllabi, textbooks, and test papers) and pedagogic practices (including teacher-student and student-student interactions). Discourse analysis encompasses a variety of analytical frameworks, including critical discourse analysis (CDA), conversation analysis, discursive psychology, ethnomethodology, genre theory, linguistic ethnography, microethnographic discourse analysis, multimodal analysis, sociocultural theory, and systemic functional linguistics (SFL), among others.

Discourse analysis serves as a valuable method for examining texts within the educational domain. The analysis of textual data can elucidate perceived and inferred

needs. Textual data offers ESP practitioners valuable sources of materials that are contextually grounded in professional or academic settings where English serves as the medium of communication. Discourse-oriented needs analysis encompasses target texts, text-as-data descriptions, analytical data analysis grounded in a specific theoretical framework, and subsequent interpretations. These interpretations will address specific needs.

A discourse-based approach to needs analysis for English for Medical Purposes (EMP) involves analysing real medical language in spoken and written contexts to identify the specific linguistic needs of healthcare professionals. This strategy examines the application of language in practical contexts, such as patient consultations, interprofessional handovers, and research articles, to determine the essential language competencies required. It encompasses more than merely fundamental vocabulary lists. Analysing real-world encounters enables educators to develop lesson plans that emphasise the practical and applicable aspects of medical communication.

7. Critical Approach

Critical theory has its origins in an emancipatory philosophy, aiming to "historicise, critique, and expose human relationships of domination and subordination" (McLaren & Ryoo, 2012, p. 495). McLaren and Ryoo assert that this endeavour constitutes a dialectical process, which entails deconstructing the mechanisms through which knowledge is produced, valued, and utilised to exert control over individuals within our sociopolitical and economically stratified societies (p. 495). The critical perspective is significant in education, as stakeholders originate from various linguistic and cultural backgrounds. This form of education emphasises diversity and human rights. Critical theory highlights the role of education in schools as a means to provide students with equal opportunities for engagement in humanistic pedagogy and assessment, guided by the current curriculum.

Teachers, informed by critical theory, are prompted to examine their foundational theories, philosophies, beliefs, values, and assumptions regarding their pedagogical practices and assessments to evaluate how these elements serve to benefit students. Educators should critically examine the concept of learning as it pertains to their students and assess the impact of their teaching on student outcomes. Educators must critically evaluate the classroom routines they have traditionally accepted as desirable or necessary, rather than adhering to them unexamined, as these routines often reflect standard teaching practices (Hinchey, 2004, p. 6). This assertion suggests that educators, as agents of change, should critically examine their beliefs, the resources they offer, and their approach to students as genuine members of the classroom community. A classroom functions as a social environment where students engage in meaning-making, social interaction, participation, and development, serving as a transitional platform for experiential learning. Consequently, a critical perspective defines teacher self-awareness as the process of recognising their beliefs, examining alternatives, and making informed decisions regarding their pedagogical practices and assessments.

Critical theory is pertinent to needs analysis as it prompts educators to consider the fundamental purpose of needs analysis. In what ways does the analysis contribute to pedagogical practice, and what objectives should the practice achieve? A school focused on preparing students for immediate employment and vocationally-oriented colleges would have a distinct perspective on the vocational and technical knowledge required by students. The needs orientation of vocational schools significantly contrasts with that of institutions primarily designed to prepare students for university, which is entirely academic in focus. The critical approach to needs analysis examines the definition of needs and the methods by which these needs are addressed to facilitate students' personal and academic development. Needs analysis enables students to articulate and critically assess their immediate and future requirements. The needs analysis must be regarded as a critical dialogue and reflection between ESP practitioners

and students regarding the meaning of needs from both emic and etic perspectives. A critical needs analysis enables students to participate in the design of micro-level materials within the framework of whole-language curriculum development. Borrowing Benesch's (2001) term, needs analysis is supplanted by rights analysis, as "[r]ights, unlike needs, are political and negotiable." They serve as a framework for envisioning increased democratic participation among all members of an academic or professional community" (p. 58). Utilising the concept of rights analysis, students' needs represent their expressed rights to participate in humanistic and emancipatory English for Specific Purposes pedagogy, encompassing both teaching and learning processes.

A critical examination of needs analysis in English for Medical Purposes (EMP) contexts recognises the limitations of traditional models by highlighting the specific characteristics of the learning environment and moving beyond a purely skills-based approach to incorporate social, cultural, and resource-related factors. This involves analysing the authentic requirements of learners, including their "wants," "needs," and "lacks" in relation to specific professional communication, while also assessing the resources available, such as the teacher's skills, institutional support, and logistical elements of the learning environment. The objective is to develop a curriculum that is both practical and relevant to students' professional settings.

3.3. Methods and Instruments for Data Collection

1. Questionnaire Surveys and Interview Methods

Questionnaire surveys and interviews serve as fundamental data collection methods in ESP needs analysis, each possessing distinct advantages and being applicable in specific contexts. Questionnaire surveys are prevalent owing to their efficiency and extensive coverage potential. Effective questionnaire design necessitates meticulous attention to various factors. The questionnaire's structure must be clear and logically coherent to facilitate

respondents' understanding and response to the questions. Secondly, the phrasing of questions must be clear and precise, free from bias or leading implications, to ensure the collection of objective feedback. A combination of well-structured question orders and diverse types, including multiple-choice, scale-based, and open-ended questions, can improve both response rates and data quality.

Interviews offer a comprehensive approach to data collection, enabling researchers to acquire a nuanced understanding of respondents' perspectives and needs. Effective interview techniques encompass proficient listening abilities, sensitivity to nonverbal cues, and the timely pursuit of more probing inquiries. Open-ended questions are essential in interviews, as they encourage respondents to share additional information and personal insights. Creating a conducive interview environment that ensures respondents feel at ease and valued is essential for eliciting genuine feedback.

The integration of questionnaire surveys and interviews offers a more comprehensive and multidimensional perspective for needs analysis in English for Specific Purposes (ESP). Questionnaire surveys identify overarching trends and patterns, whereas interviews explore individual cases and intricate themes. The integration of various methods enhances the comprehensiveness of data collection and improves the accuracy of understanding student needs. These methods enable educators to accurately customise and modify ESP courses to address particular student needs.

2. Case Studies and Field Observations

Case studies, as a comprehensive data collection method, are crucial for analysing ESP needs. Their emphasis is on detailed analysis of specific cases, yielding significant insights through the examination of concrete instances. This method is well-suited for addressing complex or novel teaching scenarios, including the exploration of language usage patterns

among specific professional students and the evaluation of the impact of newly introduced teaching methods on student learning outcomes. In conducting case studies, it is essential to choose representative cases that possess significant research value and to employ thorough data collection and analysis to uncover both the unique and universal aspects of these cases. This may encompass students' learning processes, interaction patterns, and their responses to particular teaching methods.

Field observations offer a direct and immediate approach to data collection. Field observations, in contrast to case studies, prioritise the collection of data in a non-intrusive manner within natural settings, often focusing on observing student behaviour, communication, and reactions in classroom environments. This method effectively captures students' natural behaviours in authentic learning environments, providing valuable insights into their learning habits and interaction patterns. Teachers can evaluate students' collaboration skills and communication techniques by observing their interactions during group discussions. Field observations can identify potential issues in the classroom environment, including low student engagement and a misalignment between teaching content and student needs.

The integration of case studies and field observations offers a thorough and detailed perspective for needs analysis in English for Specific Purposes (ESP). Case studies provide comprehensive data and insights via thorough analysis of particular cases, whereas field observations allow for direct observation of students' natural behaviours and responses. This multidimensional approach enhances the understanding of student needs from various perspectives, offering more comprehensive and precise guidance for ESP course design.

2. Selection and Application of Data Analysis Tools

Data collection represents the initial phase of ESP needs analysis, succeeded by the essential task of employing suitable tools for data analysis. The appropriate selection and

utilisation of data analysis tools are essential for guaranteeing the effectiveness and reliability of the analysis. The various types of data must inform the selection of tools. Quantitative data, including questionnaire survey results, can be analysed using statistical software such as SPSS or R, which facilitates complex statistical analyses to uncover trends, correlations, or differences within the data. These software tools are capable of processing substantial data volumes and delivering precise mathematical computations, thereby assisting researchers in identifying significant patterns and structures within the data.

Qualitative data, including text from interviews or case studies, typically employs analysis methods such as content analysis and thematic coding. Software like NVivo and Atlas facilitates comprehensive text analysis, enabling researchers to tag, classify, and compare significant themes and patterns within the data. This analysis facilitates comprehension of the data's significance, uncovering more profound insights and correlations.

Data visualisation tools such as Tableau and Microsoft Power BI are essential for effectively presenting analysis results. These tools facilitate the conversion of complex data into comprehensible charts and graphs, enhancing the intuitiveness and communicability of research findings. Data visualisation enhances researchers' comprehension of data and facilitates the presentation and discussion of results with non-experts.

The selection of appropriate data analysis tools involves multiple factors, including the type of data, analysis objectives, and available resources for the researcher. Effective utilisation of these tools can markedly improve the efficiency and quality of data analysis, offering substantial support for the design and enhancement of ESP courses.

3.4. John Munby's Communicative Syllabus Design (1978)

Identifying and assessing student needs is essential in English for Specific Purposes (ESP) instruction. One significant contribution of English for Specific Purposes (ESP) to the broader field of English Language Teaching is the advancement of comprehensive needs analysis. John Munby's *Communicative Syllabus Design* (1978) is the most comprehensive and recognised study on needs analysis. Munby presented a comprehensive set of procedures for identifying target situation needs in his work. This set of procedures was referred to as the Communication Needs Processor (CNP). The CNP consists of a series of questions about essential communication variables (such as topic, participants, and medium) that can identify the target language needs of any group of learners.

This work is regarded as a pivotal moment in the evolution of English for Specific Purposes (ESP). The development of the CNP facilitated the identification of the needs of various learner groups; the course designer merely needed to implement it. *Communicative Syllabus Design* emerged as a significant turning point in a different context. The analysis demonstrated the inherent limitations of a language-centred approach to needs analysis. What was the reason for this?

The answer exists in the definition of 'needs.' In the language-centred approach, the response to this inquiry would be 'the capacity to understand and/or generate the linguistic characteristics of the target context', such as the ability to comprehend the passive voice. Therefore, the CNP generates a compilation of the linguistic characteristics of the target situation. However, needs encompass a broader scope than this.

According to Hutchinson (1991:54), needs can be categorised into two types: target needs and learning needs. The former indicates the actions required of the learner in the target situation, while the latter specifies the actions necessary for learning to occur.

3.4.1. Target needs

The term 'target needs' serves as an overarching concept that conceals several significant distinctions in practice. Analysing the target situation through the lens of necessities, deficiencies, and desires is more beneficial.

a. Necessities

'Necessities' refer to the needs identified by the demands of the target situation; specifically, the knowledge required for the learner to operate effectively within that context.

**Table.1 A sample of needs analysis based on Munby's Communication Needs
Processor for medical Professionals**

Munby component	Medical English application
Participant	Doctors, nurses, medical students
Purpose	Communication in medical settings
Setting	Hospitals, clinics, conferences
Interaction	Doctor-patient, staff-colleagues
Instrumentality	Spoken and written medical English
Dialect	British/ American, medical terminology
Target level	B2-C1CEFR
Communicative events	Consultations, reports, representations

Language functions	Asking ,advising, explaining, documenting
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b- Lacks

Identifying necessities alone is insufficient, as the focus in English for Specific Purposes (ESP) is on the needs of specific learners. It is essential to assess the learner's prior knowledge to identify the particular areas that require further development. The target proficiency must be aligned with the current proficiency levels of the learners. The disparity between the two is termed the learner's lacks (Hutchinson, Waters, and Breen 1979).

c- Wants

Thus far, target needs have been examined solely from an objective perspective, with actual learners not participating actively in the process. However, learners also possess perspectives regarding their needs. Richterich (1984:29) states that a need is not independent of an individual. Individuals construct their perceptions of needs based on data about themselves and their surroundings.

Learners are likely to possess a clear understanding of the essential requirements of the target situation and will undoubtedly have perspectives regarding their deficiencies. However, the perspectives of learners may diverge from those of other stakeholders, such as course designers, sponsors, and educators.

3.4.2. . Learning needs

Until now, needs have been evaluated solely in relation to target situation requirements. We have been examining the question: 'What knowledge and skills will learners need to perform competently in the target situation?' Starting from a position of deficiency and aiming for a state of necessity, there may be disagreements regarding the appropriate definition of the destination

as desire. The route remains unclear. What is the method for progressing from the initial point to the intended destination? This prompts a discussion on a different category of need: learning needs. To comprehend the concept of learning needs, it is essential to examine the analysis of target situation needs in greater detail.

The ESP course designer examines the target situation by posing the question: 'What knowledge is essential for the expert communicator to operate effectively in this context?' This information may be documented in relation to language items, skills, strategies, and subject knowledge.

The analysis, however, cannot demonstrate how the expert communicator acquired the language items, skills, and strategies utilised (Smith, 1984). Examining individuals' actions provides minimal insight into the processes through which they acquired those skills. However, the entire ESP process focuses not on knowledge or action, but on the process of learning. Relying solely on target objectives for course design is as simplistic as planning a journey based only on the starting point and destination. The needs, potential, and constraints of the route, specifically the learning situation, must be considered to conduct a meaningful analysis of learner needs.

We are preparing materials for a group of learners who require texts on systems and related topics. The majority of existing texts are lengthy and unengaging. Should these texts be utilised for English for Specific Purposes (ESP)? We would assert a negative response. The motivation of learners in the target context may not directly transfer to the ESP classroom. Individuals may encounter unengaging texts in their professional or academic pursuits; however, they likely possess significant motivation to engage with such material. This does not suggest that they will accept or learn from unengaging texts in English for Specific Purposes. It may be more suitable to seek texts that are engaging or humorous to foster the motivation

required for learning English (Hutchison and Waters, 1983). The target does not serve as a dependable indicator of the requirements or utility within the ESP learning context. The target situation analysis identifies the destination and provides general direction for the journey. However, the chosen route must align with the available vehicles and guides, reflecting the learning situation's conditions, the learner's existing cognitive pathways, and their motivation for engagement.

3.5. Analysing Learning Needs

To analyse learning needs, we can use a similar checklist to that used for target situation analysis:

- A Framework for Analysing Learning Needs
 - ☐ Why are the learners taking the course?
 - Compulsory or optional;
 - Apparent need or not;
 - Are status, money, promotion involved?
 - What do learners think they will achieve?
 - What is their attitude towards the ESP course? Do they want to improve their English or do they resent the time they spend on it?
- How do the Learners learn?
 - What is their learning background?
 - What is their concept of learning and teaching?
 - What methodology will appeal to them?
- What sources are available
 - Number and professional competence of teachers;
 - Attitude of teachers to ESP;

- Teachers' knowledge of and attitude to the subject content/materials; -
Aids; opportunities for out-of class activities.
- Who are the learners?
 - Age/Sex/ Nationality;
 - What do they know already about English?
 - What subject knowledge do they have?
 - What are their interests?
 - What teaching styles are they used to?
 - What is their attitude to English or to the cultures of the English speaking world?
- Where will the ESP course take place?
 - Are the surroundings pleasant, dull, noisy, cold etc?
- When will the ESP course take place?
 - Time of day;
 - Every day/ once a week;

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4.1. Medical Terminology and Discourse

Medicine employs a single lingua franca while expressing itself through diverse languages. "Just as Latin emerged after the Renaissance alongside regional European languages as the unifying language of the healing arts, English has now taken on a prominent role as the international language of medicine" (Baethge, 2008, p. 37). The significant advancements in science and technology have led to the emergence of various new branches within Medicine. Recent discoveries have necessitated the naming of new diseases, their associated symptoms, potential therapeutic procedures, devices, and instruments, as well as medications. The expansion of medical knowledge has led to an increase in medical terminology. The proliferation of new terms is substantial; however, the rate of their formation and standardisation remains insufficient (Jammal, 1988, cited in Fleischman, 2008).

Discoveries have predominantly been published in English, which has established itself as the lingua franca of Medicine and science, a status anticipated to persist in the future (Pavel, 2014). The volume of publications in English has significantly risen, comprising approximately 80% of all journals indexed in Scopus (Van Weijen, 2012), with nearly 90% of newly included journals in Medline currently published in English (Baethge, 2008). The prominent role of English language journals has established a platform for scientific discourse on significant issues in contemporary research (Ibid, p. 38).

Prior to the emergence of English as the dominant language of science, Greek and Latin had influenced the conventions of scientific writing, particularly in the medical field, for over 2,000 years (Bujalková, 2018). In the early 20th century in Europe, medical science utilised three primary languages: German, English, and French. The shift towards English commenced in the 1950s, resolving linguistic ambiguity (Baethge, 2008). Currently, there are approximately

400 million native English speakers and 1.4 billion individuals who utilise English as a second or third language (Crystal, 2005). David Graddol (2006) projected that by 2015, this figure would increase to 2 billion or more, representing nearly a quarter of the global population. Approximately 15 million individuals globally engage in scientific work, with at least two-thirds being non-native speakers and users of this lingua franca (Montgomery, 2009, p. 6). English serves as the official language for numerous international conferences and an increasing number of national journals. "Additionally, numerous healthcare professionals are currently employed or intend to seek employment in Anglophone countries to broaden their practice" (Pavel, 2014, p. 39).

Despite the significant increase in the importance of medical language, it is noted that "there is no recognised discipline called medical linguistics" (Wulff, 2004, p. 187). Research on medical language is disseminated across a range of scientific journals, including those focused on Medicine, linguistics, education, and conference proceedings. The language of Medicine presents challenges for medical professionals, historians, linguists, translators, and both undergraduate and postgraduate medical students (Karwacka, 2015). Medical students, like doctors, recognise its significance. Some students, having completed a secondary school final examination in English, believe they possess sufficient knowledge of the language and perceive English courses at the medical faculty as a waste of time. The following will demonstrate the diversity of Medical English. Initially, the aim is to delineate the distinctive characteristics that differentiate medical language from colloquial language. The section will examine the development of medical terminology, explore standard methods for creating new terms, address challenges in the teaching and learning process, and propose strategies to enhance the efficiency and engagement of learning. The reader will ultimately be able to determine the value and the advantages of learning Medical English.

4.2. Characteristics of medical language and medical texts

Medical terminology is regarded as one of the oldest specialised terminologies globally. This discipline focuses on the study, analysis, and description of a specialised area within the lexicon. Medical terminology has been examined from multiple perspectives, such as historical context; for instance, "the Greco-Latin core of the medical terminology is a result of the historical development of medicine as a science" (Doncu & Andronache, 2014, p. 348). Most linguists accept Jespersen's assertion that modern science has significantly borrowed from Latin and Greek roots to form compound and derived words (Jespersen, 1931, cited in Van Dyke, 1992). Etymological analysis involves elucidating the origin and evolution of terms, as exemplified by the components of the word *etymon*, meaning the origin of a word, and *logos*, meaning word (Bujalková, 2013; Brown, 2014). Morphological examination reveals that the addition of prefixes and suffixes to root words can yield varied meanings (Džuganová, 2013). Semantic considerations indicate that shifts in meaning occur with the same frequency as alterations in form. Similar to the latter, they may be motivated by internal or external factors. "Changes occur at the semantic level, characterised by the widening and narrowing of meaning, and at the syntactic level, indicated by frequent nominalization" (Gjuran-Coha & Bosnar-Valković, 2013, p. 128).

Medical terminology has been examined from diachronic and synchronic perspectives, employing terminological, stylistic, educational, and linguistic approaches and methods (Uherová & Horňáková, 2013). The predominant research method employed is comparative, involving the analysis of two languages or multiple aspects of language (Poláčková & Džuganová, 2000).

The extensive use of specialised vocabulary used by medical professionals in their professional communication is characterised by the following layers: semi-technical

vocabulary, which refers to language used in doctor-to-doctor communication (e.g., *acne vulgaris*, skin eruption, tetanus, opisthotonos, diarrhoea); non-technical (colloquial) vocabulary, which refers to medical English occasionally used by doctors in communication with patients who lack medical education (pimples; red spots; rash; lockjaw; the runs); and technical vocabulary, which includes Latin and English medical terms used in anatomical descriptions and scientific papers.

The presence of technical, semi-technical, and colloquial terms facilitates the emergence of diverse synonyms from various origins. "Synonyms in terminology refer to words or word combinations that differ in spelling and pronunciation but convey the same scientific concepts within a specific microsystem" (Mihaljević, 1998, cited in Gjuran-Coha & Bosnar-Valković, 2017, p. 9). Synonyms are employed in various medical contexts (myopia vs. short-sightedness; coagulation vs. blood clotting; oedema vs. swelling; initiate vs. begin; detect vs. find out). The former terms are favoured in scientific writing, whereas the latter are more appropriate for patient communication. "Each functional style of language is characterised by a distinct application of linguistic resources, thereby creating its own norms that adhere to the invariant norm and do not contravene the overarching norm" (Gjuran-Coha & Bosnar-Valković, 2017, p. 7).

Pain is defined as a sharp, unpleasant sensation typically localised to a specific area of the body. The child exhibited distress due to knee pain. A persistent pain in the knee can be characterised as an ache. The experience of pain can lead to a general sensation of discomfort. The Merriam-Webster Dictionary (2019) lists several synonyms for the sharp, unpleasant sensation known as pain: ache, pang, prick, shoot, smart, sting, stitch, throe, tingle, and twinge. The inappropriate use of synonyms often leads to misunderstandings and misinterpretations (Gjuran-Coha & Bosnar-Valković, 2013). Synonyms present a challenge in mastering medical terminology.

A proficient writing style is characterised by the conveyance of the most significant amount of information using the fewest words, presented in an aesthetically pleasing manner. Clifford Hawkins (Merne, 1989: Foreword).

Jean Parkinson (2000, p. 371) identifies the following characteristics of scientific texts: (1) The nominalisation of verbs and adjectives, such as the increasing appreciation of pro-inflammatory pathways and the related dysregulation of epidermal cytokines in various forms of psoriasiform dermatitis, should promote a more comprehensive understanding of the endogenous and environmental factors influencing keratinocyte proliferation. (2) Technical terminology, for example, the patient exhibited symptoms of appendicitis. (3) Extended nominal groups or collocations, such as human immunodeficiency virus. (4) Use of tentative language (hedging), for example. The diminished attachment observed with polymorph infiltration may indirectly indicate elements of the immune response...(5) Causal and reasoning verbs, for example, indicate that addiction is caused by heroin. Utilisation of impersonal language and the use of passivisation, for example. The results of the two tests demonstrated strong consistency. Mićić (2013).

1. Historical perspectives on medical terminology

The writings of Hippocrates from the 5th and 4th centuries BC are regarded as the earliest documented sources of Western Medicine. These texts include numerous medical terms that were subsequently integrated into various national medical vocabularies, such as diarrhoea, dyspnoea, and podagra. In the early first century AD, Aulus Cornelius Celsus authored *De Medicina*, an encyclopaedic summary of medical knowledge derived from Greek sources. In his work, he imported Greek terms directly, latinized Greek words by substituting Greek endings with Latin ones, such as *stomachus* and *brachium*, or translated Greek terms into Latin, for example, *kynodontes* (Gr) to *dentes canini* (L), which translates to canines (Engl.) (dog

teeth). In the Middle Ages, coinciding with the Renaissance, the decline of Greek comprehension marked the onset of the medical Latin era. "In the following centuries, nearly all significant medical texts were published in Latin, including those by Vesalius, Harvey, and Sydenham" (Wulff, 2014, p. 187). Over time, national languages including English, French, Italian, Spanish, and German supplanted Latin in prominence. National languages continue to create new terminology by utilizing Greek and Latin roots, such as nephrectomy, ophthalmoscopy, erythrocyte, and leucocyte.

Currently, medical terminology is experiencing a shift from traditional Latin and Greek influences to a predominance of English in the formation of contemporary international medical terms (Dobrić, 2013). Modern Medicine has transcended the limitations of Greco-Latin terminology, with new medical terms being formed, in part or entirely, from standard English vocabulary. Physicians in non-English-speaking countries can either adopt these English terms directly or translate them into their native languages, as seen in terms like bypass operation, screening, and scanning (Wulff, 2014). The increasing creation of neologisms from native roots can be attributed to the decline in the teaching of classical linguistics in Western education systems, specifically the lack of knowledge of Latin and Greek among the current generation (Brown, 2014, p. 2).

Several methods are available for creating new scientific terminology, including acronyms, blends, analogies, metaphors, and compounds (Raad, 1989, p. 128).

Sakai (2007) identifies five stages in the historical development of anatomical terminology, the foundational layer of medical terminology. The first stage comprises colloquial Greek terms utilised by Galen. The second stage features terms from the early 16th century, as described by Vesalius in *De humani corporis fabrica*. The third stage includes descriptions of muscles, vessels, and nerves by Sylvius in Paris and Bauhin in Basel during the

late 16th century. The fourth stage spans the 17th to 19th centuries, characterised by anatomical textbooks written in Latin and subsequently in modern languages. The final stage marks the end of the 19th century, with the publication of the first international anatomical terminology in Latin, known as *Nomina anatomica* (Sakai, 2007).

The English terminological system includes: non-assimilated Latin terms (abdomen, appendix, dorsum, foetus, locus, nucleus, vena, uterus); non-assimilated Greek terms (asthma, carcinoma, diabetes, emphysema, myeloma, osteoporosis, pneumonia, prophylaxis, sarcoma, trauma); Latinized Greek terms (bronchus from Gr. bronchos; colon from Gr. kolon; bacterium from Gr. bakterion; embolus from Gr. embolos); assimilated Latin terms (abuse, acid, gestation, muscle, intervention, ovary, pregnancy, pulse); assimilated Greek terms (laparoscopy, lymphadenopathy, episode); terms with multiple assimilation – from Greek into Latin, from Latin into Old French, from Old French into English (spamos – spasmus – spasme – spasm); hybrid Greek/Latin terms with English affixes (nucleic, analgetic, spinal, crucial, premature, perinatal) (Rollerová, 2012).

Contemporary medical English terminology has been influenced over time by several languages, particularly Greek, Latin, Latinized Greek, French, and Arabic. The cross-influence is directly linked to the historical context surrounding the development of Medicine and its terminology" (Kujawska-Lis, 2018, p. 83). Turmezei (2012), as cited in Bujalková (2018, p. 9), states that 89% of English anatomical terms derive from Latin (65%) and Greek (24%) origins (33). Belialeva et al. (2017) assert that as much as 95% of English vocabulary is derived from Latin and Latinized Greek lexicon. It can be concluded that a foundational understanding of Latin is essential for the practical mastery of English medical terminology. Latin and English medical terminologies constitute a fundamental component of education across all medical faculties in Slovakia. The concurrent instruction of Latin and English in the initial year of medical education is perceived as beneficial by both students and educators. This facilitates

students in transferring grammar rules and vocabulary between languages, allowing for easy comparison of differences and adaptation of similarities.

1. Creation of novel terminology

The word-stock of a language is an open and continually changing phenomenon, and its units often acquire new meanings. The same holds for professional lexicons, and medical terminology is no exception (Lysanets, 2015). According to Peprnik (1992), cited in Džuganová (2013), vocabulary spreads in three possible ways: 1. forming new names; 2. forming new meanings; and 3. borrowing words from other languages. Other linguists such as Poštolčková et al. (1983) divide forming of new terms according to their way of formation: 1. morphological: (a) compounding (breastbone, endocardium, gallbladder, haemophilia); (b) derivation (appendicitis, endocarditis, adenoma, gynaecology, ultrasound); (c) acronyms and abbreviations (AIDS, HIV, CT, MRI); 2. syntactic: e.g. forming collocations (typhoid fever, side effect); 3. semantic, e.g. metaphoric and metonymic transfer of the previous meaning: medicine – science, Medicine – drug/medicament (Lysanets, 2015), mad cow disease, avian flu; 4. linguistic borrowings from other languages: e.g. French: diet, rheumatic, jaundice, migraine, manchette, nurse, tampon, ointment, pain, pipette, venom; Italian: belladonna, influenza, malaria, pellagra, scarlatina; Arabic: alcohol, alchemy, alkali, elixir (Alcaraz Ariza, 2012).

The shift from Latin and Greek word roots to indigenous languages results in the emergence of new descriptive terms, which subsequently give rise to new abbreviations and acronyms (e.g., AIDS – Acquired Immunodeficiency Syndrome, SARS – Severe Acute Respiratory Syndrome) (Gjuran Coha & Bosnar Valković, 2008). "Abbreviations are not confined to formal contexts" (Fabijanić & Malenica, 2013, p. 72). A trend exists in the integration of English acronyms or initialisms into national medical

terminologies. Abbreviations can denote multiple disease entities, leading to potential confusion and difficulties in learning or translation. RS may denote Rett syndrome in neurology, Reye syndrome in hepatology, Raynaud syndrome in rheumatology, and Rumination syndrome in gastroenterology (Badziński, 2018, p. 70).

Eponyms constitute a substantial segment of specialised medical terminology, as demonstrated by the numerous dictionaries focused on medical eponyms (Lončar & Anić Ostroški, 2014). Stedman's Medical Eponyms (2005) presents a compilation of around 18,000 medical eponymic terms. Eponymy signifies the highest form of acknowledgement in the scientific community. Eponyms recognise the contributions of scientists, inventors, or notable physicians in the identification of diseases, exemplified by Down syndrome, Parkinson's disease, and Alzheimer's disease. There are several categories of eponyms, which include proper eponyms, toponyms, auto-eponyms (Brunt, 1998), biblical eponyms (e.g., Job syndrome), mythological eponyms (e.g., Proteus syndrome, Andromeda strain), and those derived from fairy tale characters (e.g., Cinderella syndrome, Cinderella dermatosis) (Canziani, 2011). Each eponym contains an underlying narrative about its development. These narratives are often analysed by linguists and medical professionals, such as American Professor Robert B. Taylor, MD (2017), and Polish physician Eugeniusz Józef Kucharz, MD (2017). This interest stems from the observation that, "until recently, the history of medicine was, with some notable exceptions, the special province of retiring physicians" (Kushner, 2008, p. 1). The widespread use of eponymous terms has prompted scientific debate and disagreement among specialists and linguists concerning their application in Medicine (Wright, 1991; Whitworth, 2007). Eponyms provide conciseness; however, differing opinions exist among various scientific communities, including medical professionals and linguists, regarding their use in Medicine.

4.3. The objectives of acquiring medical language skills

Medical terminology, like all languages, has evolved. The foundation of medical terminology has, nonetheless, remained consistent (Dobrić, 2013). The origins of written medical language date to the 5th century BC, whereas the spoken language of Medicine has existed since the inception of the medical profession (Dirckx, 1983). The emergence of English for Medical Purposes (EMP) as a university teaching subject and academic research field occurred over a span of approximately 25 years. In the 1980s, English for Specific Purposes emerged as a distinct area of linguistic research, leading to the publication of a bibliography on the topic and the establishment of specialised academic training courses for professionals, as well as journals and conferences globally (Dobrić, 2013; Grego, 2014). In Slovakia, English for Medical Purposes (EMP) was incorporated into the curriculum of medical faculties in 1990, coinciding with significant social and political changes that generated substantial interest in the English language.

The English language is crucial in medical education, serving both as a medium for acquiring knowledge and for disseminating research in an international context (Piroozan, Boushehri, Fazeli, 2016). The importance of English in Medicine is underscored by the prevalence of scientific, technological, and academic information being published or presented globally in English. In the contemporary communication landscape, English serves as a medium for disseminating knowledge. "Thus, encouraging medical students and physicians to acquire proficiency in English is essential" (Milosavljević, 2008, p. 441). Fluency in English is essential for accessing critical medical and scientific information, as it serves as the *de facto* language of international Medicine (Heming, Nandagopal, 2012, p. 485).

The study of English for medical purposes (EMP) has emerged as a priority within medical education (Cargill & O'Connor, 2006). To remain aligned with advancements in

Medicine and clinical practice, healthcare professionals must utilise English in their work (Mitrofanova et al., 2018). Research and information acquisition are not the sole factors that underscore the significance of the English language in medical education. The insufficient medical language proficiency of foreign physicians in certain English-speaking nations can adversely affect the quality of medical care delivered (Grego, 2014). The growing interest in English for Specific Purposes (ESP) has led to an enhancement in the quality of medical English utilised in lectures, textbooks, and journal articles, attributed to the extensive range of teaching materials, including medical textbooks designed to meet students' needs (Barnau, 2018; Barnau, Džuganová, Malinovská, 2018).

4.4. Common challenges in the teaching and learning process

One of the most significant aspects of vocabulary acquisition in a particular language is the study of collocations. Consequently, various researchers have emphasised the importance of collocation acquisition among EFL (English as a Foreign Language) learners from diverse linguistic backgrounds (Alotaibi, 2014). Collocations are classified into two primary categories: grammatical collocations (e.g., Sam is in agony, I met him by chance, Mary is angry at him) and lexical collocations (e.g., inflict a wound) (Alotaibi, 2015). A speaker may still be comprehensible despite making a grammatical error. However, a lexical error may lead to misunderstanding. Similar issues arise with errors in collocations. Collocations often pose significant challenges for non-native speakers because of interference from their native language (Miščin, 2013; Pavičić Takač & Miščin, 2013). Collocation competence is regarded as a significant contributor to language fluency. Medical students often struggle to form correct English phrases and sentences, despite their knowledge of grammatical structures and vocabulary. This difficulty arises from their attempts to construct sentences influenced by the patterns of their native language (Vahabian, Asghari, Esna, Mazaheri Laghab, 2018, p. 9). Carl James (1998) asserts that collocation errors are the most prevalent among non-native

speakers. For instance, rather than taking someone's temperature, responding to treatment, and adhering to a diet, non-natives frequently employ the phrases 'measuring temperature,' 'responding to treatment,' and 'following a diet.' These examples indicate that collocation competence presents challenges for EFL learners, suggesting that collocations should be integrated into medical language instruction.

Specific terms, referred to as false friends, may exhibit similar morphological structures in two languages, such as Slovak and English, yet possess distinct meanings in each language (Poláčeková, 2006). For example, the Slovak term "ambulancia" translates to "outpatient department" in English, while the English term "ambulance" corresponds to "sanitka" in Slovak. Additionally, the Slovak adjective *aktuálny* should be translated as topical, current, contemporary, or relevant, rather than actual, which denotes real or factual. The term "rekord" in Slovak refers explicitly to achieving the best result in sports, such as setting or breaking a record, or being a world record holder. In contrast, the English term encompasses additional meanings, including the act of keeping a record of something, such as a medical record. In cases of ambiguity regarding the precise definition of a specific term, it is recommended to consult a comprehensive medical dictionary for clarification.

The irregular plural is present in standard English (tooth – teeth, foot – feet, mouse – mice, goose – geese, woman – women, man – men, child – children, half – halves, knife – knives, calf – calves) and also in medical terminology derived from Greek or Latin origins. In medical terminology, doublets may arise, such as formula – formulae/formulas, scapula – scapulae, vertebra – vertebrae; focus – foci/focuses, foetus – foeti/foetuses, uterus – uteri/uteruses, locus – loci, nucleus – nuclei; datum – data, bacterium – bacteria, curriculum – curricula, medium – media; apex – apices/apexes, appendix – appendices/appendixes, index – indices/indexes, radix – radices/radixes, analysis – analyses, thesis – theses; criterion – criteria; caries – caries, series – series, species – species, cervix – cervixes/cervixes; sarcoma –

sarcomata/sarcomas, etc. (Rollerová, 2012). The presence of doublets complicates the acquisition of irregular plural forms, as students often tend to create regular plural forms, even when only Greek or Latin variants are applicable.

Many medical terms from clinical branches that indicate negative signs, symptoms, defects, and diseases possess an explicit negative connotation, often conveyed through the use of negative prefixes (Džuganová, 2006). Many negative prefixes derive from Latin or Greek origins. The most common negative prefixes in medical English include a (e.g., *apepsia*, *anaemia*), *dis* (e.g., *dislike*, *disease*), *dys-* (e.g., *dyspepsia*, *dyspnoea*), *in* (e.g., *inorganic*, *intolerant*), along with its three variants – *il-* (e.g., *illegal*, *illegible*), *im-* (e.g., *impossible*, *immobile*), *ir-* (e.g., *irrational*, *irregular*) – *mis-* (e.g., *mistake*, *misunderstanding*), and *non-* (e.g., *nonsense*, *non-nucleated*). The prefix "un-" (as in *unpleasant*, *unsafe*) is the sole negative prefix derived from Anglo-Saxon origins. Multiple negative prefixes can attach to the same word, such as *non-effective* and *ineffective*, *dissatisfied* and *unsatisfied*, *non-human*, *unhuman*, and *inhuman*, as well as *abused*, *misused*, and *unused*, resulting in either subtle or significant variations in meaning (Džuganová, 2008).

English medical terminology can be challenging due to the coexistence of Latin- or Greek-derived terms alongside English-based equivalents for the same anatomical structures, symptoms, or diseases. Examples include *cerebrum* versus *brain*, *cranium* versus *skull*, *leucocyte* versus *white blood cell*, *insufficiency* versus *deficiency*, *carcinoma* versus *tumor* or *cancer*, and *neoplasm* versus *neoplastic disease*. These terms possess a closely related or nearly synonymous meaning. Synonymy is intricately linked to calques and borrowings (also known as loanwords) (Džuganová, 2013). Synonymous expressions possess varying stylistic values and validity, and are employed in distinct medical contexts (Kujawska-Lis, 2018). In interactions with patients, physicians often employ English-based terminology and descriptive language derived from everyday usage rather than specialized expressions, such as "shingles"

instead of "herpes," "bleeding" instead of "haemorrhage," and "clotting" instead of "coagulation" (Mičić, 2013).

4.5. Content related to the use of English in medical contexts.

In the early 1960s, English for Specific Purposes (ESP) emerged as a prominent field within English as a Foreign Language (EFL) instruction. Since that time, numerous ESP publications have been released; however, many of these works are characterised by a lack of rigorous research foundation and clearly articulated theoretical frameworks (Kazem & Fatemeh, 2014). To achieve educational objectives effectively, evaluating teaching materials is essential, facilitating an understanding of their functionality in relation to acquisition theory and pedagogic practice (Al Fraidan, 2012).

Previous studies (LITZ) identify three types of material evaluation: "pre-use" or "predictive evaluation," "in-use evaluation," and "retrospective" or "post-use evaluation." The most effective method is "predictive evaluation," which examines the potential performance of a textbook. The "Textbook Evaluation Instrument Based on the ACTFL Standards" is referenced by Kazem and Fatemeh (2014). In light of the specific context and the nature of the assessment, appropriate instructional resources can be identified for teaching medical English.

In an EFL context where classrooms serve as the primary source of English, textbooks are crucial for student learning (Riazi, 2003), underscoring the importance of selecting suitable teaching materials. An English for academic purposes instructor consistently endeavours to address student needs; however, textbooks that comprehensively fulfil all requirements and goals are uncommon. It is recommended that supplementary materials be utilised to enhance the primary textbook (Kazem & Fatemeh, 2014).

4.6. Strategies for language acquisition

Language learning strategies focus on facilitating the acquisition of Medical English, particularly its vocabulary. Over the past four decades, numerous strategies for teaching and learning medical language have been developed. "Students frequently employ rote memorisation to learn terminology, typically yielding minimal success" (Brown, 2004, p. 1). Research in language acquisition supports the use of mnemonics, including word analysis that dissects words into their morphemes (prefixes, roots, and suffixes). This approach enhances lexical access and facilitates improved retention and transfer of knowledge to other words within the same morpheme families (Džuganová, 1998; Brown, 2004).

I.S.P. Nation (2001) posits that an effective strategy should enhance the efficiency of both vocabulary learning and usage. Rebecca Oxford (1990) posits that strategies function as tools that are meaningful only when students are prepared to assume greater responsibility for their own learning. This situation is frequently hindered by the passive cultural and educational systems in which they may be embedded. The educator must select the most effective strategies and demonstrate them to students through multiple examples of application (Sinadinović, 2013).

Learning is a personal process; strategies that are effective for one individual may not be effective for another. Numerous educators utilise either a visual or auditory approach. Research indicates that specific regions of the brain are engaged during learning, with visual learning activating distinct areas compared to olfactory learning. According to a report by D. G. Treichler, referenced in the journal "Trends in Cognitive Sciences" (Shams & Seitz, 2008, p. 5), it is stated that individuals typically retain 10% of what they read, 20% of what they hear, 30% of what they see, and 50% of what they both see and hear. The integration of sensory modalities benefits students across a wide range of learning styles. Songs,

flashcards, and YouTube short videos on medical terminology (e.g., YouTube – Medical Terminology – The Basics; Medical Terminology, Shortcuts for Pronunciation; Medical Terminology Concerto) or medical topics serve as practical supplementary tools for this visual-auditory teaching and learning strategy (Barnau, Džuganová, Malinovská, 2018).

Montalt et al. (2018) assert that the proper application of medical terminology is essential for effective communication within both monolingual and multilingual healthcare settings. Marečková, Šimon, and Červený (2001) assert that medical students must acquire knowledge of the meanings, usage, and pronunciation of medical terminology. Bujalková (2018, p. 8) asserts that it is challenging to contend that one can effectively learn anatomy, physiology, and various other facets of Medicine without a fundamental understanding of Latin. Understanding word formation and word analysis equips learners to handle medical terminology more effectively (Džuganová, 1998). Additionally, knowledge of anatomical etymologies can improve both students' and teachers' appreciation and comprehension of human anatomy (Turmezei, 2012). Rather than memorising lists of terms, individuals can infer the meanings of other terms with ease. Understanding significant Latin and Greek roots and prefixes can elucidate the meanings of numerous other words (The Free Dictionary, 2019).

Medical students must acquire proficiency in English, as it serves as the primary medium for instruction and facilitates access to medical literature and information. Additionally, they need to publish their research findings once they enter the medical profession. Non-native English speakers, whether students or professionals, face significant challenges in engaging with scientific medical literature. This includes monitoring advancements in Medicine, seeking clinical answers, writing research articles, manuscripts, and correspondence, preparing oral presentations, and collaborating with fellow scientists in English, all of which are more demanding compared to their native-speaking counterparts. Healthcare practitioners are in high

demand globally, including within the EU (Tomak & Šendula-Pavelić, 2017). Both physicians and medical students need to be adequately prepared for future employment opportunities.

4.7. Features of a lexical approach to language learning

Current perspectives on language teaching and learning emphasise that vocabulary knowledge is fundamental to language acquisition, regardless of whether the language is a first, second, or foreign language (DeCarrico, 2001). Over the past two decades, there has been a resurgence of interest in vocabulary acquisition across different proficiency levels and contexts. The methods of vocabulary teaching vary from explicit instruction, as advocated by Lewis (1993, 1997) in his Lexical Approach, to indirect, incidental exposure to lexical items. The indirect method posits that lexis acquisition occurs as a by-product of engaging in communicative activities that provide adequate comprehensible input (Krashen, 1982). Nation (2001) asserts that vocabulary acquisition from meaning-focused input is most effective when learners are familiar with at least 95% of the words in the input they are engaging with. A lexical approach posits that language acquisition primarily involves the learning of lexical items rather than the acquisition of grammatical rules. According to Lewis (1997), language is composed not merely of conventional grammar and vocabulary, but frequently consists of multi-word prefabricated chunks. These units include lexical phrases, collocations, idioms, and both fixed and semi-fixed phrases, which constitute a significant component of language. Language structures constitute the framework of language, whereas vocabulary supplies the essential components and substance (Harmer, 1991). Evidence indicates that language learning is more effective with a suitable level of deliberate, explicit instruction of language items (Long, 1988; Ellis, 1994). From an ESP perspective, a course should explicitly teach vocabulary found in authentic verbal communication and written texts. In Polish universities, English for Specific Purposes (ESP) courses are mandatory for a minimum of four semesters, following a regular schedule of two hours per week. University-level students

commencing an English for Specific Purposes (ESP) course require direct instruction to acquire specialist vocabulary that is unfamiliar to them. Jordan (1997) notes that in the development of vocabulary for English for Specific Purposes (ESP) and English for Academic Purposes (EAP), indirect learning can be employed, accompanied by an explanation to students on how to infer meaning from context. Learning subject-specific vocabulary can be enhanced by emphasising the importance of utilising specialist dictionaries. The challenges identified by students in the EMP courses offered by the authors include issues with appropriate word usage in specific contexts, insufficient vocabulary, and confusion between phonetically or visually similar words.

Learning involves the process of memory; thus, learners must not only acquire a substantial vocabulary but also retain it effectively. Memory is essential in language learning, including English for Specific Purposes (ESP). There are two types of memory: short-term memory, which retains a limited amount of information for a brief period, and long-term memory, which can store an unlimited quantity of information indefinitely. Nattinger (1988) articulated their role in vocabulary acquisition as follows:

Research indicates that memory involves the storage and recall of words within a network of associations. Various types of associations can exist and be interconnected in multiple ways. Words in our mental lexicon are interconnected not only by meaning, form, and sound, but also by visual representation.

The implications for teaching are clear: learners are more likely to retain information in long-term memory when engaged in meaningful tasks that require deeper analysis and processing of the language. For words to be retained in long-term memory, they must be incorporated into diverse exercises and tasks.

ESP teachers encounter challenges regarding the extent and selection of vocabulary to be taught, the methods for effective instruction, and the implications of word knowledge. These enquiries highlight the requirements of students in developing lexical competence and the teacher's role in facilitating this objective.

4.8. The vocabulary students need

The vocabulary necessary for students enrolled in ESP courses to effectively read scientific texts and communicate in their target environments should encompass a minimum of 2,000-3,000 core words (or word families), which constitute approximately 80% of the vocabulary likely to be encountered (Carter, 1988). This author identifies two categories of "core vocabulary": one that is "neutral by not indicating degrees of intensity or formality," and another termed "subject-specific core vocabulary," which is "expressive of a particular field." Nation (2001) presents a classification of four categories of vocabulary that may be found in academic texts:

1. High-frequency words encompass function words (e.g., prepositions such as in, for, on; articles such as a/an, the) and content words, including nouns, verbs, adjectives, and adverbs. These words typically constitute approximately 80% of the total words in the text. The General Service List of English Words (West, 1953) serves as the standard compilation of high-frequency words. Despite its age, it remains regarded as the premier list (Nation, 1990). A limit of approximately 2,000 word families is generally appropriate for high-frequency vocabulary for learners preparing to study in English (Nation & Hwang, 1995).
2. Academic words, also referred to as sub-technical terms, are those that commonly occur in scholarly texts across various disciplines, yet are infrequently found in non-academic materials. Examples include terms such as phase, factor, method, function,

and significant. Approximately 9% of the running words in academic texts consist of these elements. The Academic Word List (Coxhead, 1998) is the most comprehensive compilation of these terms, comprising 570 word families prevalent across diverse academic texts in multiple disciplines.

3. Technical terms, or specialised vocabulary, are prevalent within specific subject areas and vary across different disciplines. This category comprises approximately 5% of the total running words in academic texts. The instruction of extensive specialised vocabulary occurs within the framework of acquiring specialised subject knowledge.
4. 4. Low-frequency words constitute the largest category, encompassing those encountered by English learners with moderate frequency and those seldom used by English speakers.

Medical students must be familiar with various categories of vocabulary, especially high-frequency, academic, and technical terms. They typically recognise the significance of vocabulary, particularly the specialised terminology pertinent to the medical field. The instruction of technical vocabulary should focus on equipping students with strategies that enhance their comprehension and retention of the terms. The subsequent section of this paper will present several of these strategies. Before presenting these strategies, it is essential to understand the meaning of the word. Wallace (1982) defines the knowledge of a word as encompassing the following abilities: a) recognition in spoken or written form; b) voluntary recall; c) association with relevant objects or concepts; d) application in the correct grammatical structure; e) accurate spelling and pronunciation; f) usage in appropriate collocations; g) employment at the suitable level of formality.

The teacher is responsible for imparting these abilities to the students.

4.8.1. Instructional practices in specialised vocabulary development

To determine the appropriateness of teaching a colloquial English word or phrase, EMP teachers should evaluate its potential usefulness to students and its likelihood of being retained in long-term memory. In the instruction of medical vocabulary, these issues are less significant, as all medical terms and expressions encountered in texts can be beneficial in current or prospective contexts, necessitating student familiarity with them. Teachers must differentiate between vocabulary essential for comprehension and that required for production. The development of strategies for deducing word meanings from context is the most significant method for learning new vocabulary. The production of words relies on essential methods, including the creation of an association network that links a word to other related words through diagrams, as well as the use of mnemonic devices that connect the pronunciation or spelling of a second language (L2) word with the meaning of a first language (L1) word (Thornbury, 2002). Cognitive processing is more effective for word retention than mechanical learning; the greater the number of decisions made by the learner regarding a word and the higher the cognitive demands of those decisions, the better the retention of the word (Miller, 2001).

The presentation of unfamiliar vocabulary refers to the structured phases of a lesson designed to instruct learners on a pre-selected set of vocabulary items (Thornbury, 2002). Incidental vocabulary teaching may take place during other segments of the lesson when unfamiliar vocabulary is encountered in texts, discussions, role-plays, or problem-solving tasks. Specialist vocabulary should be contextualised, with the most effective context being texts pertinent to the subject area. Contextualised vocabulary provides students with the opportunity to observe their surroundings, including relevant collocations and grammatical structures. To improve the visibility of the presented words in the text, they may be emphasised through highlighting or underlining. Various teaching techniques can be employed to introduce the meanings of new words, including translation, visual aids, tangible objects, definitions,

semantic sets (such as synonyms, antonyms, and subordinate terms), situational sets pertinent to the topic, and metaphor sets (comparisons). This section presents our experience in teaching specialist medical vocabulary in English for Medical Purposes (EMP) courses at the medical university. The objective of the exercises is to facilitate students' comprehension and retention of vocabulary, thereby promoting long-term memory consolidation and retention.

The most efficient method for conveying the meaning of words is through translation into the native language. While beneficial for both teachers and students, it may hinder students' comprehension of the relationships among words. Consequently, in certain instances, new vocabulary ought not to be regarded as isolated entities; instead, it should be translated and practiced as lexical chunks or phrases, which are multi-word conventionalised units. Expressions such as "The patient presented with the symptoms of ..." and "The patient developed ..." may appear unnatural and ungrammatical to Polish students when translated literally into Polish. However, these phrases are standard in Medical English.

In vocabulary practice, these expressions can serve as a fundamental framework with positions for different fillers, which can be practiced through substitution drills. Filled examples are as follows:

The patient presented with the symptoms of hypertension.

angina pectoris

malnutrition

This exercise should incorporate the translation of substituted terms along with students providing definitions based on their medical knowledge, for example. Hypertension, or high blood pressure, is characterised by blood pressure levels that exceed normal ranges.

A different exercise employed to teach the associations between words in lexical chunks involves matching their components, for example,

What's wrong pain.

What seems to with him?

He is in terrible be the trouble?

Understanding a word's meaning requires familiarity with its typical co-occurring words or collocates. Collocations refer to pairs or groups of words that frequently co-occur (DeCarrico, 2001).

Vocabulary learning is significantly influenced by the associations of words, as noted by Nattinger (1988), who states that “the meaning of a word has a great deal to do with the words with which it commonly associates.”

Examples of collocations in Medical English include: acute pain, give an injection, take temperature, and make diagnosis. Unfamiliarity with collocations can result in incorrect word combinations that may be unintelligible to native speakers, as exemplified by Polish students using *difficult condition (instead of serious condition) or *give a diagnosis (instead of make a diagnosis). These errors typically arise from the transfer of lexical associations from the native language to English.

The activities intended for instructing collocations may encompass the subsequent stages: Following the illustration of collocations in context through highlighting or underlining in texts, word-matching and gap-filling activities may effectively consolidate word co-occurrences. The noun "pain" can be accompanied by a list of adjectives that either co-occur or do not co-occur

with it. The students' task is to identify the correct collocations by circling them and subsequently verifying their answers using a dictionary or a provided key.

He complains of a/an high:

1. acute ,
2. itching,
3. throbbing,
4. pain
5. burning
6. limited
7. shooting

The task which may follow this exercise is to ask students to brainstorm other words they know which are related to the theme of “pain” and to draw a “spidergram” made of these words.

Gap-filling activities are another type of word association practice. In such an activity the students are asked to choose all possible words from a list, which contains more words than are needed.

examination, injection, therapy, injury, shooting, prescribe, major

1. After physical, the doctor ordered some lab tests.
2. Dr Smith prescribed me a very effective
3. Has the nurse taken blood?

4. He has a pain in his right leg.

Another way of teaching collocations is filling in a collocational grid as presented below.

This activity may be done with the aid of a dictionary.

weak/strong	narrow/wide	
	x	face
x		head
x	x	back
x	x	foot
	x	nose

Collocations can present challenges in learning due to their unpredictability; however, they also assist learners in establishing the semantic context of a word and enhancing retention. Visual representations, including pictures, drawings, and charts, are effective techniques for word presentation. These may be useful when presenting topics such as body systems or office and ward equipment. Labelling pictures with medical terminology facilitates greater student engagement compared to verbal presentations delivered by instructors. The task requires students to label the image with the names of the components of the digestive system.

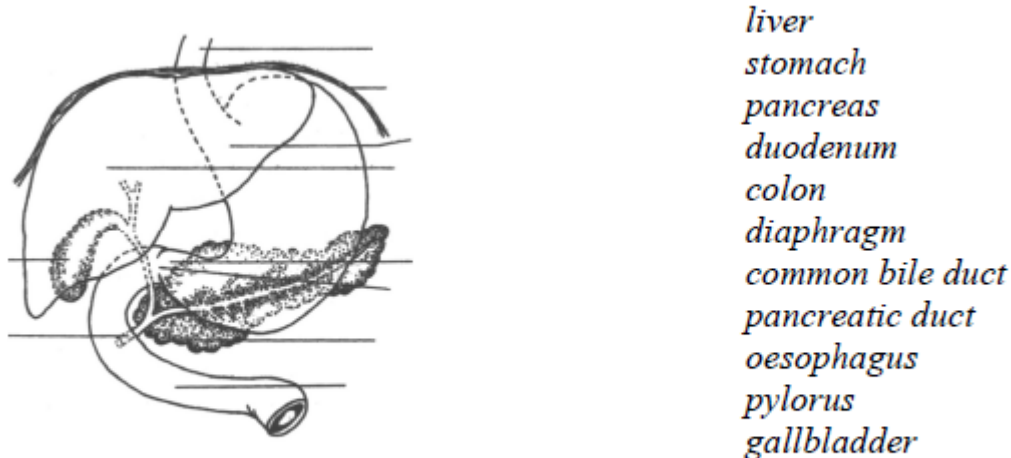
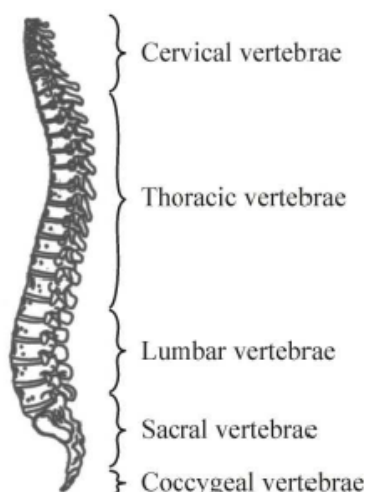


Fig. 1. A fragment of the digestive system



The seven vertebrae are at the top of the vertebral The twelve vertebrae are at the back of the ribcage. Between them and the sacrum there are five vertebrae. The five vertebrae are fused together to form the sacrum.

Fig. 2. Segments of the vertebral column

Matching definitions with the names of various medical terms is quite a popular exercise, e.g., *ultrasonograph*, ***ophthalmoscope***, *radiometer*, *rectoscope* ***ophthalmoscope*** – a lighted instrument for examining the inside of the eye.

Multiple choice exercises with given several possibilities are very common types of exercises, e.g.,

At the casualty department my brother had his injury

- a) *cured* b) ***treated*** c) *operated* d) *healed*

As a follow-up activity, the students' task could be either to explain their choice and why the other choices are incorrect or to use them in sentences invented by them.

A similar type of exercise may take the form of choosing the “odd one out” in which the students must eliminate the word which is in some way different from the others, e.g.,
*cataract **eyelid** nearsightedness strabismus glaucoma*

Eyelid is the odd one in this group of words since it is a part of the eye, whereas the others are all disorders of the eye.

The “Mind – map” technique (Harmer, 1991) helps the students to put words into different groups, e.g., by choosing words from a given list to complete each sentence, as shown below.

anxious blurry stiff double throbbing unclear

*His sight is _____, _____, _____ (**blurry, unclear, double**)*

swollen alert sprained stabbing dislocated dilated

*Her wrist is _____, _____, _____ (**swollen, sprained, dislocated**)*

Matching words with their antonyms (words having opposite meanings) is a useful exercise to learn or revise vocabularies on the basis of their associations, e.g.,

kill

*The opposite of **improve** is *deteriorate**

rough

One of the words from each pair of opposites should then be chosen to complete sentences, e.g.,

He was ill and unfortunately his condition began to

When explaining the meaning of unknown vocabulary the teacher must signalize whether the term is colloquial or medical (specialized). There is a type of exercise in which the students are asked to provide a medical term (usually of Greek or Latin origin) for a given colloquial one. To make this exercise easier, the clues may be provided in the form of dashes given for letters and additionally one or two letters, e.g., *knee cap* - _ _ *tl* _ _ _ _ (*patella*) *collar bone* - _ _ _ *v* _ _ _ _ (*clavicle*) *pass water* - *u* _ _ *n* _ _ _ (*urinate*)

A potential source of confusion are homophones, that is, words in English which have the same pronunciation but are spelt differently and have different meaning, e.g., *heal* and *heel*, *hoarse* and *horse*. Students must be aware of the fact there are medical words which can easily be mistaken with their homophones. The exercise that enables them to distinguish between two homophones is the one in which the students are asked to choose the appropriate word from the given pairs, e.g., *The wound has been very slow to heal / **heal**.*

*He has pharyngitis and that's why his voice is **hoarse** / horse.*

The more such pairs the student will recognize, the fewer chances of producing sentences having an unintended comical effect.

In learning medical vocabulary, it is very important to know how suffixes and prefixes work. A useful exercise showing their function is to ask the students to match prefixes and suffixes with parts of the body they pertain to and then to give definitions of the new terms containing these affixes, e.g., *rhino* - *nose Rhinitis is an inflammation of the mucous membrane in the nose.* *algia* - *pain Myalgia is pain in the muscles caused by their overuse or stretching.*

A type of exercise which combines the knowledge of lexis, affixes (prefixes and suffixes) and grammar of the word is so called “word building”. The students’ task is to make

a suitable form derived from a given word to fill the blank in the sentence, e.g., *An operation has been ordered for the _____ of a tumour. EXCISE*

A variant of a word building or a word derivation exercise is an exercise in which the students complete grids or “spidergrams” of word families which show the derived parts of speech (a verb, a noun and an adjective), e.g.,

verb	noun	adjective
<i>diagnose</i>	<i>diagnosis</i>	<i>diagnostic</i>
<i>treat</i>	<i>treatment</i>	<i>treatable/untreatable</i>
<i>operate</i>	<i>operation</i>	<i>operative, operable/inoperable</i>

As a follow-up activity, the students may be asked to fill in the slots in sentences with an appropriate word chosen from the completed grid:

She cannot be operated because the tumour turned out to be _____ .

Solving crossword puzzles is a very attractive activity for revising vocabulary, in which the students are given the meaning of medical words and their task is to provide these words. There are several online programmes (e.g., Hot Potatoes) with the help of which teachers can easily arrange crossword puzzles for their students with the words they want them to revise.

There is a long list of medical abbreviations which are routinely used by medical staff and the students are expected to know them, especially if they plan to have a hospital practice in Great Britain. An exercise that combines the teaching of medical collocations and medical abbreviations is the one in which the students are to match the parts of lexical collocations accompanied by their abbreviations, e.g., Chest therapy (HRT) ear, nose thrombosis (DVT)

hormone replacement

X-ray (CXR) deep vein and throat (ENT)

A distinctive feature of academic style is using the more formal alternative when choosing a verb, noun, or other part of speech. The choice is between a prepositional phrase (verb + preposition) and a single verb. In everyday spoken English, the verb + preposition is frequently used; however, in academic discourse the preferred choice is a single verb (wherever possible) (Swales and Feak, 1994/2004). Students should be aware of these stylistic differences between informal and formal language.

An exercise in which students choose a verb which increases the formality of sentences to substitute for a verb + preposition is an effective way of raising the students' awareness of the features of academic style, e.g.,

- *Researchers are looking into the way bacterial strains respond to the new drug.*
(informal style)
- *Researchers are investigating the way bacterial strains respond to the new drug.*
(academic style)
- *Mortality rate due to lung cancer has gone up in the last ten years. (informal style)*
- *Mortality rate due to lung cancer has increased in the last ten years. (academic style)*

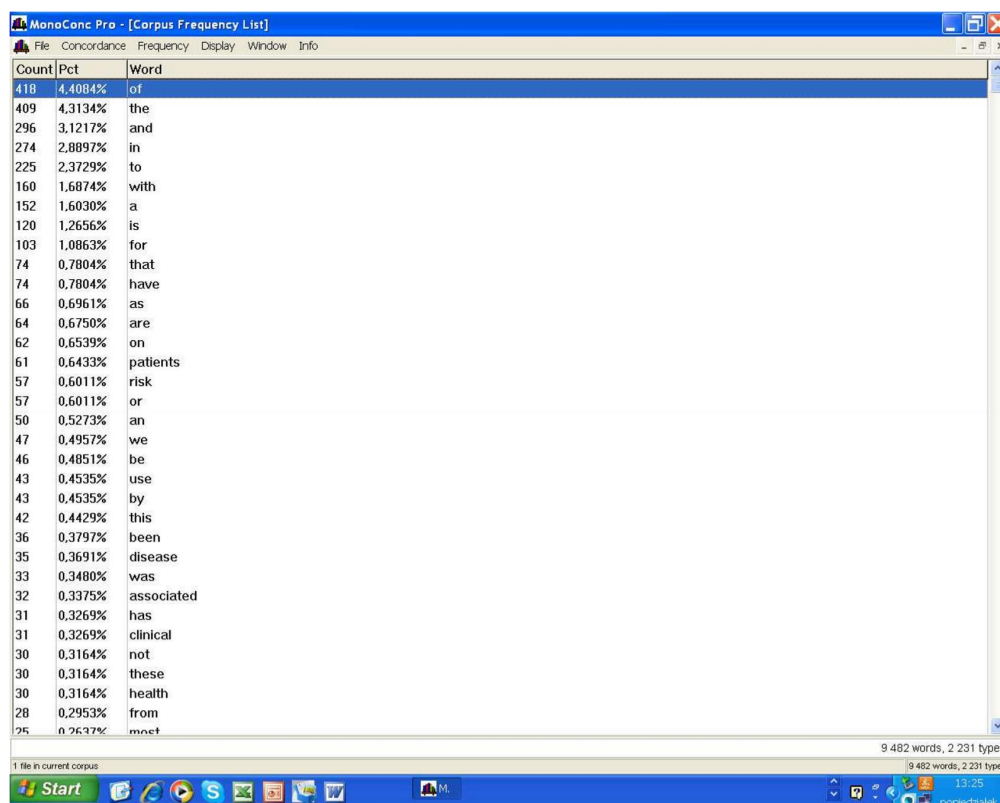
It should be pointed out to the students that it is common in English academic texts to use nouns which are stacked together with other nouns and adjectives to form relatively long sequences (noun phrases), e.g., *a breast cancer surgery, an autoimmune disease research centre, a randomized double-blind controlled trial, a movable pea-size tumour mass*. The students should be explained that the head of such a sequence is the last noun and that they are translated into Polish in a right-to-left order, that is, starting from the head and moving to the left.

A useful activity which helps to infer the meaning of such sequences is asking the students to underline them in the text, circle the head of the sequence, and fill in the grid by writing its elements in a proper column, e.g.,

Determiner	Adjective/s, Noun/s	Head of a group
<i>a an</i>	<i>breast cancer</i>	<i>surgery centre</i>
<i>a a</i>	<i>autoimmune disease research</i>	<i>trial</i>
	<i>randomized double-blind controlled</i>	<i>mass</i>
	<i>movable pea-size tumour</i>	

For explicit vocabulary studies, both teachers and students benefit from corpus data, which provides them with easily available information about the frequency and collocations of target words. Corpus is a collection of authentic texts stored electronically for the language study (Partridge, 2006). Because corpora consist of authentic texts, they are the best to show how vocabulary is used in a real language, and not in the language invented for didactic purposes. There are many corpora, which contain millions of words, available online, e.g., British National Corpus, Cobuild Corpus, American National Corpus. However, ESP teachers can build their own specialist corpora composed of academic texts (e.g., scientific articles) to show the students how specialist vocabulary is used in them. Corpus information is presented in the form of concordances, that is, lines of text with the target word placed in the centre. They are normally displayed on the computer screen. Concordances are created using a software, called a concordancer, e.g. WordSmith or MonoConc Pro. On the basis of concordance lines, the students can work out the regularities and patterns related to selected words. Before creating concordance lines, the students can make the wordlist which shows the frequency of occurrence

of all the words which appear in the text. A fragment of such frequency list from the specialist corpus, compiled by the authors of this paper, is presented in Figure 4.



Count	Pct	Word
418	4.4084%	of
409	4.3134%	the
296	3.1217%	and
274	2.8897%	in
225	2.3729%	to
160	1.6874%	with
152	1.6030%	a
120	1.2656%	is
103	1.0863%	for
74	0.7804%	that
74	0.7804%	have
66	0.6961%	as
64	0.6750%	are
62	0.6539%	on
61	0.6433%	patients
57	0.6011%	risk
57	0.6011%	or
50	0.5273%	an
47	0.4957%	we
46	0.4851%	be
43	0.4535%	use
43	0.4535%	by
42	0.4429%	this
36	0.3797%	been
35	0.3691%	disease
33	0.3480%	was
32	0.3375%	associated
31	0.3269%	has
31	0.3269%	clinical
30	0.3164%	not
30	0.3164%	these
30	0.3164%	health
28	0.2953%	from
25	0.2637%	most

9 482 words, 2 231 types

Fig. 4. Screenshot from a concordancer showing the frequency list in the specialist corpus

Creating a frequency list before analyzing concordances for certain target words allows to see which words are most common in a given text. These words can be chosen for further study. The obtained frequency list (Figure 4) shows that after the functional words, such as prepositions and articles, among high-frequency words in the studied corpus are nouns, such as patients, risk, disease, health. They can be the focus of further analysis. For example, seeing the concordance for the keyword “patients” displayed in the way as shown in Figure 5, the students can list the adjectives and other parts of speech which collocate with this word.

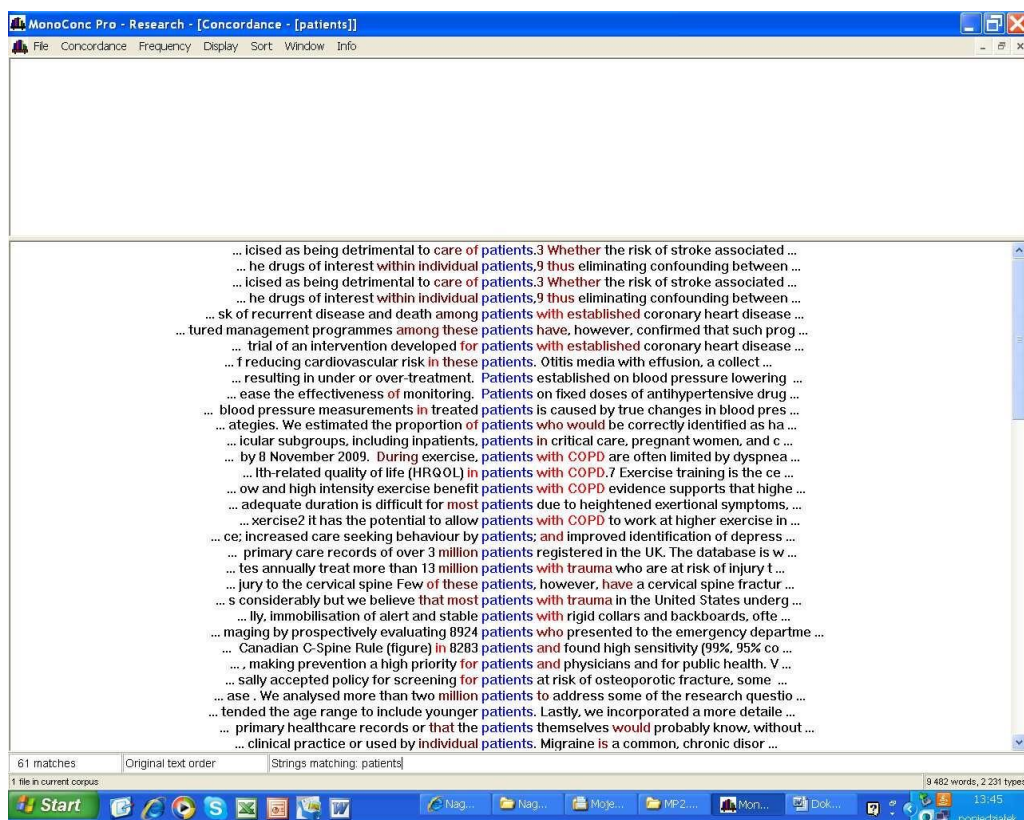


Fig. 5. Screenshot from a concordancer showing the concordance for the keyword “patients”

The teacher may alternatively supply students with a printed concordance that has the target word omitted. The task for the students is to identify the word that appropriately fills all the slots in the given context. Corpus-based concordances facilitate discovery-based learning by enabling students to independently uncover linguistic "facts," aligning with the principles of Data Driven Learning (Johns, 1991).

The majority of the exercises mentioned above are receptive; that is, students make decisions regarding words without producing them. In certain instances, students are required to justify their decisions, provide definitions, or utilise selected words in original sentences. In productive tasks, students must integrate newly learnt vocabulary into writing or speaking activities, which involve the completion and creation of sentences and texts. Examples of

instructions for written and spoken creative activities conducted in our ESP classes are presented below:

- Construct sentences utilising the terms provided in the grid or list.

Utilise the provided words to construct accurate statements regarding your personal attributes.

- Conduct the doctor-patient interview by formulating the doctor's questions based on the provided patient responses, ensuring that the questions are appropriately tailored to the answers given.

- Provide the patient with appropriate medical advice based on the described situation, utilising relevant medical terminology. The student's task is to recommend an appropriate therapy and elucidate its nature.

These activities encompass various processes that enhance vocabulary retention in long-term memory.

Regardless of the number of words students have acquired, there are always unfamiliar terms in the texts they read or listen to. Inferring the meaning of an unfamiliar word from contextual clues is a valuable skill for students. Educators ought to facilitate the development of this skill in their students. DeCarrico (2001) outlines several steps for inferring meaning from context.

- 1) determining the part of speech of the unknown word (whether it is a noun, verb, or adjective);
- 2) examining the word's immediate collocates (an article may indicate that it is a countable noun; an object may imply that it is a transitive verb);
- 3) Examining the broader context, including adjacent clauses and sentences, particularly those initiated by conjunctions such as "but," "when," "because of," "however," and "as a result," aids in inferring the rhetorical relationships among sentences and clauses;

- 4) Analysing the unknown word by deconstructing it into its prefix, root, and suffix, when feasible;
- 5) Reviewing the text to verify the accuracy of the guess;
- 6) Referring to a dictionary when previous methods are unsuccessful.

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