Analysing Target Needs of the Students and the English Courses for Bachelors of Pharm-D at Institutions of Malakand Division

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Abstract

This study investigates the English for Specific Purposes (ESP) needs of Pharm-D students in Malakand to inform a targeted, implementable syllabus. Guided by four research questions, a mixed-methods design combined student and teacher questionnaires with triangulating qualitative evidence. Descriptive statistics summarized self-reported proficiency in reading, writing, speaking, and listening, while group differences by year and institution were tested with robust procedures (Welch ANOVA with Games–Howell or Kruskal–Wallis with Dunn). Associations between proficiency and perceived task importance were examined using Spearman correlations with multiplicity control. Reliability evidence (α/ω) for questionnaire subscales met conventional thresholds. Findings indicate a persistent gap between the high perceived importance of pharmacy-specific communicative tasks—reading professional texts, drafting prescriptions, documenting interventions, and patient counselling—and lower self-reported proficiency, especially in speaking and listening. Meaningful differences across years and institutions support staged progression and localized support. Correlation patterns show that tasks judged most critical often coincide with areas of weakest competence, signaling priority targets for instructional time and assessment. In response, the thesis proposes a practical twelve-week ESP syllabus mapped from identified gaps to course features and authentic assessments. The model emphasizes genre-based reading, concise professional writing, interactional speaking for counselling, and disciplined vocabulary development, assessed through OSCE-style interactions, portfolios, and timed briefs. Limitations concerning sampling and generalizability are acknowledged, and a concise risk-mitigation log is included. Overall, the study offers an evidence-based blueprint that links documented needs to teachable modules and measurable outcomes for pharmacy education in Malakand. The approach is scalable to similar regional pharmacy programs across contexts.

Keywords: ESP; Pharm-D; Needs analysis; Pharmacy education (Malakand)

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CHAPTER 01

INTRODUCTION

1.1. Introduction

Proficiency in English is essential in many disciplines, especially in highly specialized and globally interconnected professions like pharmacy, where the English language has become the language of choice for academic and professional settings due to its widespread domination. One professional degree program that aims to give students the information and abilities they need to succeed in the pharmaceutical sector is the Bachelor of Pharmacy (Pharm-D). But in addition to technical proficiency, fluency in English is essential because it is the main language used for international cooperation, scientific discourse, and research. With reference to Pharm-D students' English language courses, this introduction seeks to present a thorough analysis of their target needs. It emphasizes the importance of needs analysis in making sure that these courses are in line with students' academic and professional goals.

1.2. The Importance of English in the Pharmaceutical Profession

The pharmaceutical sector is by its very nature international, with English acting as the common language for international research, collaboration, and communication. It is mandatory for individuals working in the pharmaceutical industry to read scientific publications, take part in global conferences, and communicate in English with peers, authorities, and patients. Therefore, for Pharm-D. graduates, being able to communicate effectively in English is not just a core competency but also a necessary talent. Over 90% of scientific papers are written in English, making it the language of research on a global scale, according to Crystal (2003). This figure emphasizes how important it is for Pharm-D. candidates to acquire excellent English language proficiency in order to access and contribute to the enormous corpus of scientific knowledge.

English plays a key role in many areas of the pharmaceutical education curriculum, from writing research papers, creating presentations, and participating in oral communication, to reading and comprehending complicated scientific books. The use of technical language, the capability to comprehend and synthesize data from many sources, and the ability to accurately and effectively convey conclusions are among the particular language requirements of the pharmaceutical industry. In order to ensure that Pharm-D students are adequately equipped for the linguistic demands of their future employment, these demands underscore the necessity of English language courses that are specifically designed to meet their needs.

1.3. Understanding the Concept of Needs Analysis

Needs analysis is an organized method for determining the unique language requirements of students in a given setting. It entails obtaining and evaluating information on the language proficiency of the learners as of right now, as well as their future career needs and the gaps between these two areas. Informed language course design that is efficient, relevant, and in line with students' academic and career objectives is the aim of needs analysis. In the discipline of English for Specific Purposes (ESP), needs analysis is regarded as the cornerstone of curriculum development since it guarantees that the instructional strategies and content are specifically tailored to the needs of the students (Hutchinson & Waters, 1987).

The idea of requirements analysis first came into focus as a crucial element of ESP course design in the 1970s. Target Situation Analysis (TSA), one of the most well-known requirements analysis models, was first presented by Munby in 1978. In this scenario, the professional pharmacy environment, the model focuses on identifying the specific language tasks that learners must complete and the accompanying linguistic elements needed to complete them. A framework for determining the language functions, abilities, and forms that are most pertinent to

the learners' future occupations is provided by Munby's model, which has been widely embraced and modified in a variety of ESP contexts.

1.4. Types of Needs in Language Learning

1. Different needs must be distinguished while examining Pharm-D students' needs, as this differentiation influences how the English courses are designed. Three main categories can be used to group needs related to language acquisition: learning needs, personal needs, and target needs.

1. Target needs: These are the linguistic abilities and information that students will need in order to perform well in their intended environment. This includes being able to comprehend and write specialist literature, interact with patients and healthcare providers, and keep up with the most recent findings in the area for Pharm-D students. Target needs are frequently determined by TSA, which entails examining the particular jobs and activities that students will have to carry out in their future careers.

2. Acquisition Needs: These are the resources and circumstances needed to support language acquisition in an efficient manner. This covers elements including the students' present competency level, preferred learning styles, the accessibility of learning resources, and the instructional strategies employed. Designing a curriculum that not only meets the target demands but also gives students the support they need to reach their language learning objectives requires an understanding of learning needs.

3. Personal Needs: These are the unique objectives and spurrents that push language learners to pick up a new language. Students may have quite different demands based on their goals, experiences, and personal histories. For instance, although some Pharm-D students may be driven by the need to advance their professional prospects, others may

be motivated by the desire to achieve in their academic studies. In the process of learning a language, learners' motivation and level of involvement are greatly influenced by their own requirements.

1.5. Challenges in Conducting Needs Analysis

Especially in a subject as broad and dynamic as pharmacy, doing a thorough requirements analysis is a challenging undertaking that comprises multiple obstacles. The student body's diversity, which can lead to a range of English proficiency levels, learning preferences, and cultural backgrounds, is one of the main problems. Because of this variation, creating a curriculum that works for every student is challenging because their needs can vary greatly. For instance, some Pharm-D students might need more fundamental support because they struggle with basic language abilities, while others might have a great basis in English but still need specific vocabulary and communication skills.

The ever-changing landscape of the pharmaceutical industry is a challenge to requirements analysis due to the constant advancements in technology, research, and regulations. Because of this, the language requirements of Pharm-D candidates are dynamic and change as the field does. According to Dudley-Evans and St John (1998), maintaining the relevance and efficacy of English courses in preparing students for the challenges of their future employment necessitates an ongoing process of needs analysis and curriculum revision.

Furthermore, a needs analysis procedure frequently entails gathering and examining a sizable amount of data from a variety of sources, such as surveys, interviews, observations, and diagnostic tests. It might take a lot of time and resources to complete this, especially in major universities with varied student bodies. It is also difficult to ensure the authenticity and reliability

of the data gathered because it needs to be carefully planned and carried out to prevent biases and mistakes (Brindley, 1989).

1.6. The Role of Teachers in Needs Analysis

Teachers are essential to the needs analysis process because they are the ones who work with students the most closely and have a thorough awareness of their learning preferences, strengths, and shortcomings. Effective instructors, in Richards' opinion (2001), are those who regularly evaluate the requirements of their pupils and modify their lesson plans and instructional resources to better suit those needs. To establish a learning environment that fosters the development of both topic knowledge and language abilities, teachers in Pharm-D programs need to be well-versed in both the principles of language instruction and the content of the pharmaceutical sector.

Engaging students in the needs analysis process is one of the most important ways that educators can support it. This can be done in a number of ways, including through surveys, interviews, and reflective exercises that let students express their preferences, difficulties, and learning objectives. Teachers may guarantee that the courses they create are in line with the real needs of the students instead of depending just on assumptions about what these needs might be by encouraging a collaborative approach to needs analysis (Dudley-Evans & St John, 1998).

Apart from incorporating students, educators can also acquire significant perspectives from many stakeholders, including professionals in the sector, academic advisors, and curriculum developers. These parties are a great source of information on the language requirements for the pharmaceutical industry, employer expectations, and necessary abilities. Teachers can create courses that not only fulfill students' academic needs but also equip them for the realities of the working world by incorporating these insights into the needs analysis process.

1.7. The Impact of Needs Analysis on Curriculum Design

The design and development of English language courses for Pharm-D students are directly influenced by the results of needs analysis. Curriculum designers can create courses that are pertinent, targeted, and efficient by using the clear image of the learners' linguistic needs that a well-conducted needs analysis gives. This entails choosing instructional strategies, resources, and content to meet the specific requirements of the pupils.

The choice of course material is one of the most important factors in curriculum design. The English course material should be tightly tailored to the unique requirements of the pharmaceutical industry for Pharm-D students. Using real resources that mimic the kinds of texts students may come across in their academic and professional careers—like scientific articles, case studies, and industry reports—is one way to achieve this. Additionally, the course material must to be pertinent to the students' academic pursuits and equip them with the linguistic abilities required for success in their assignments and research projects.

The choice of instructional strategies is a crucial component of curriculum design. Learner-centered teaching strategies emphasizing active learning and engagement should be employed in Pharm-D students' English courses. There are several ways to accomplish this, including problem-based learning, role-playing exercises, simulations, and group projects. These teaching strategies help students become more proficient and self-assured by encouraging them to use their language abilities in authentic contexts.

Furthermore, when the demands of the students and the area change, the curriculum should be fluid and adaptive to accommodate the addition of new material and teaching strategies. In order to maintain the courses' relevance and efficacy throughout time, a constant process of curriculum evaluation and revision is needed. Through the integration of needs analysis results into the curriculum design process, educators may design English courses that not only meet the needs of

the students now but also get them ready for the challenges that their field will provide in the future.

1.8. The Relationship Between Needs Analysis and Student Motivation

Student motivation is positively impacted by a thorough analysis of requirements, which is one of its main advantages. Students are more likely to be involved, motivated, and dedicated to their learning when they believe that their courses closely relate to their academic and professional objectives. This is especially crucial for ESP courses since there is usually a clearer and more direct link between language proficiency and career success.

Studies have indicated that students enrolled in ESP classes customized to meet their individual needs do better academically and are more motivated than students in standard language courses (Hyland, 2006). This is so that the learning process is more purposeful and pertinent. ESP courses are made to specifically address the chances and obstacles that students will face in their professional lives. Pharm-D students are often very motivated to devote time and energy to improving their language abilities because they see the connection between their English classes and their future employment in the pharmaceutical business.

Additionally, a requirements analysis can assist in identifying possible obstacles to motivation, such as a lack of confidence, anxiety related to language, or a belief that the course material is irrelevant. Through the implementation of focused curriculum design and encouraging teaching strategies, educators can effectively remove these obstacles and establish a good learning atmosphere that stimulates motivation and engagement. Reducing language anxiety and boosting confidence can be achieved, for instance, by implementing cooperative activities that promote peer support and feedback. Additionally, making sure that the course material is directly relevant

to the students' academic and professional objectives can help them feel more purposeful and relevant.

1.9. Challenges in Addressing the Identified Needs

Effectively meeting these demands in the curriculum might be difficult, even if needs analysis offers insightful information on the language requirements of Pharm-D students. The Pharm-D program's demanding academic and professional requirements must be balanced with the needs of language acquisition, which is one of the main hurdles. It is frequently expected of students to simultaneously advance their English language proficiency and grasp difficult scientific concepts and technical abilities. Time management and prioritization issues could arise as a result of this tremendous workload.

Maintaining the curriculum's adaptability and responsiveness to the changing demands of students and the pharmaceutical industry is another difficulty. Curricula must be updated and revised on a regular basis to reflect changes in linguistic requirements as new research, technology, and regulations emerge. In order to maintain the relevance and efficacy of the course material, teaching strategies, and resources, educators must adopt a dynamic approach to curriculum design.

And it can be difficult to meet the different demands of a broad student body, especially in major universities with a diverse student body with varying educational, cultural, and linguistic backgrounds. A diversified approach to teaching is necessary because of this variability, in which teachers modify their strategies and materials to fit the unique needs of each student while still upholding a coherent and integrated curriculum. For educators to successfully execute this, it can be resource-intensive and necessitate additional assistance and training.

1.10. The Future of English Language Education for Pharm-D Students

Pharm-D students' language requirements are anticipated to grow increasingly more intricate and varied as the pharmaceutical business continues to adapt in response to worldwide trends, technology breakthroughs, and changing regulations. Given this, English language instruction will play an ever-more-important part in the process, serving as a tool for ongoing professional growth and lifetime learning in addition to improving academic and professional communication.

The growing focus on multidisciplinary learning and collaboration is one of the major themes influencing the future of English language instruction for Pharm-D. students. The capacity to interact and work together with experts in a variety of domains, such as biology, chemistry, engineering, and medicine, will be crucial for Pharm-D students as the distinctions between scientific disciplines become increasingly blurred. A more integrated approach to language learning will be necessary for this, with English courses created to promote cross-disciplinary cooperation and communication.

A significant development in pharmaceutical education and practice is the increasing use of technology. In addition to language proficiency, Pharm-D students will need to acquire digital literacy as digital tools and platforms proliferate in the industry. Utilizing internet resources, taking part in virtual teams, and having good digital environment communication are all part of this. These digital skills must be taught in English language courses in order to prepare students for the demands of the digital age.

The necessity for English language skills will also be fueled by the pharmaceutical industry's growing globalization, as experts will need to communicate with partners across borders, overcome obstacles to cross-cultural understanding, and access resources worldwide. The significance of ESP courses that are customized to meet the unique requirements of Pharm-D

students and give them the language proficiency required to thrive in a globalized economy will be further highlighted by this.

As the working language in Asian contexts, English has developed (Kirkpatrick, 2012). A concentrated study area of English in the workplace is included in English for Specific Purposes (ESP). The increased availability of English language programs for those wishing to study the language for work-related reasons has led to an increase in the popularity of ESP (Renandya & Widodo, 2016). Among those is the pharmaceutical field.

Between ordinary English and ESP, Robinson listed three distinctions. According to Sari, Kuncoro, and Erlangga (2019, p. 30), the course content is designed and developed based on the needs analysis of the students. It is also specifically recommended for adult learners. The first set of learning activities are goal-oriented; students learn English not only for the language itself but also for specific goals in an academic and professional field.

Further, ESP is an endeavor or program that supports English language learners' requirements to perform a particular task. English for engineering, English for pharmacy, English for midwifery, English for nurses, English for management, English for tourism, English or accounting, and other topics linked to English are some examples. Agustina (2014, p. 38) cites Richard & Rodger (2011) as saying that it does require pertinent and highly linked content to a specific topic.

Teaching English as a specific language in the pharmacy classroom has its share of difficulties, according to the author's experience. Because mixed-ability classrooms are the norm, teachers not only have to cope with a large body of material knowledge, but also with pupils' poor English proficiency. The syllabus for the course presents another difficulty. A full syllabus including course materials and assessment criteria is something that not many institutions offer to their professors. Some schools have even delegated the task of organizing all curricula,

instructional strategies, and assessments to the teachers. The inability of the schools to gauge the intended learning outcomes for the pupils means that this practice will eventually cause issues. The course evaluation ought to be carried out, in this opinion.

The definition of English for Specific Purposes (ESP) according to Dudley Evans (1998), as referenced in Donesch, 2012, p. 2, is meeting the individual requirements of pupils. It applies the methods and exercises that form the foundation of a specific topic of study. Language-related tasks like lexis, grammar, passage, and genre are likewise centralized under it. In addition to learning how to converse about professional and career objectives, ESP for adults typically possesses Basic English language abilities (Hutauruk, 2012). As stated by Javid and Choudhary Zahid (2013) on page 140, one of ESP's characteristics is its ability to meet particular learning needs. Furthermore, the ESP teaching style can be effectively integrated with different models of language instruction. Stated differently, as stated by Stevens (1988) and referenced in Eddine & Chams (2016), ESP modifies input, encourages students' motivation to learn, controls learning strategies, and promotes their practices and uses.

As stated by Hutchinson and Waters (1987), "an approach to language teaching in which all decisions as to content and method are based on the learner's reason for learning" is known as ESP. When the general English course failed to meet the demands of language learners in the 1960s, ESP was founded and has a long history in the field of language instruction. Three factors are shared by the rise of ESP courses: the needs of the Brave New World, a revolution in linguistics, and an emphasis on the student (Hutchinson and Waters, 1987).

A trend known as ESP, according to Celce-Murcia (2001), is founded on the idea that all language instruction ought to be customized to meet the unique language-learning and language-use requirements of a designated set of students while also taking into account the sociocultural

environment in which these students will use the language. Given that it caters mostly to adult learners who must acquire a foreign language for use in their specialized fields—nursing, pharmacy, science, technology, hospitality, academic learning, and other fields—ESP is widely recognized as a learner-centered approach.

A difficult but necessary procedure that is vital to preparing students for the rigors of their academic and professional lives is the identification of the target needs of Pharm-D students and the associated design of English courses. English classes can be designed in a way that empowers students while being relevant and successful. This can be achieved by combining needs analysis frameworks, thoughtful curriculum design, and active instructor and student participation. In order to make sure that Pharm-D graduates are prepared for the opportunities and difficulties of their chosen area, curricular adaptation and continuous needs analysis will be essential as the pharmaceutical business continues to change.

Teachers can help Pharm-D students become competent, self-assured, and globally-minded pharmaceutical professionals by providing them with focused and responsive English language instruction that meets their varied and dynamic language needs. With its foundation firmly established in requirements analysis and learner-centered pedagogy, English language instruction for Pharm-D. candidates must be flexible enough to meet the ever-evolving demands of the field.

1.11. Problem Statement

There is limited, locally grounded evidence on what Pharm-D students in Malakand most need to do with English in their coursework and clinical preparation, and how proficient they currently feel across core skills. Existing ESP courses are not consistently mapped to discipline-specific tasks or to measurable outcomes. Without a documented profile of needs and perceived proficiency, departments cannot prioritize content, sequence instruction, or evaluate impact credibly.

1.12. Purpose and Aim

The purpose of this study is to conduct an ESP needs analysis for Pharm-D students in the Malakand context. The study estimates students' self-reported proficiency across key language skills, identifies and ranks pharmacy-specific English tasks by perceived importance, examines differences across cohorts and institutions, and explores the association between task importance and perceived proficiency. The findings are used to propose an evidence-based ESP blueprint and a model 12-week syllabus for Pharm-D programs.

1.13. Objectives

1. Describe Pharm-D students' self-reported proficiency in reading, writing, speaking, and listening.
2. Identify and prioritize discipline-specific English tasks valued by students and teachers.
3. Test for differences in proficiency and task-importance ratings by year of study and by institution.
4. Examine the association between proficiency and task-importance ratings for pharmacy-specific tasks.
5. Translate findings into actionable recommendations and a model ESP syllabus aligned to program outcomes.

1.14. Research Questions

- **RQ1:** What are the self-reported proficiency levels in reading, writing, speaking, and listening among Pharm-D students in Malakand?
- **RQ2:** Which pharmacy-specific English tasks are rated most important by students and teachers?
- **RQ3:** Do proficiency and task-importance ratings differ by year of study and by institution?
- **RQ4:** What is the association between self-reported proficiency and task-importance ratings for pharmacy-specific tasks?

1.15. Significance of the Study

This study provides the first structured, locally validated profile of Pharm-D ESP needs in the Malakand context. Academically, it adds a replicable approach for program-level needs analysis. For curriculum design, it supplies a ranked task list and effect-size-aware findings that justify content choices, assessment formats, and instructional time. For quality assurance, it offers measurable indicators to track after course redesign.

1.16. Scope and Delimitations

The study focuses on Pharm-D students and teachers within the Malakand region's participating institutions. Instruments capture perceived proficiency and perceived task importance rather than direct performance. Findings generalize to similar cohorts and settings with comparable curricula and resources. Detailed clinical communication in Urdu/Pashto lies outside scope except where it interfaces with English in coursework.

CHAPTER 02

Literature Review

The intersection of language education and professional training has long been recognized as critical in ensuring that students are adequately prepared for the demands of their future careers. In the field of pharmaceutical education, where English proficiency is essential for both academic success and professional competence, the design of English language courses requires careful consideration of the specific needs of students. This literature review aims to provide an in-depth examination of the existing research on the target needs of Pharm-D students and the English courses designed to meet these needs. The review explores the theoretical foundations of needs analysis, the evolution of English for Specific Purposes (ESP), the application of needs analysis in pharmaceutical education, curriculum design for Pharm-D students, the role of teachers, challenges in ESP implementation, and best practices, while also considering the future directions of ESP in this context.

2.1. Theoretical Foundations of Needs Analysis

The concept of needs analysis in language education is rooted in the recognition that learners in different fields have distinct language requirements. This section delves into the theoretical underpinnings of needs analysis, discussing key models and their relevance to ESP and Pharm-D programs.

2.2. Historical Development of Needs Analysis

The practice of needs analysis has its origins in the 1970s, coinciding with the rise of ESP as a distinct field within English language teaching. Needs analysis was initially developed as a

means of tailoring language instruction to the specific needs of learners in various professional and academic contexts. Munby's (1978) *Communicative Syllabus Design* is often cited as one of the earliest and most influential works in this area. Munby introduced the concept of Target Situation Analysis (TSA), which involves identifying the specific language tasks that learners will need to perform in their target professional contexts. TSA focuses on the end goals of language learning, with the syllabus designed to equip students with the skills necessary to succeed in these target situations.

The importance of TSA in needs analysis is underscored by its application in various ESP contexts. For instance, in the context of pharmaceutical education, TSA involves analyzing the specific language tasks that Pharm-D students will need to perform in their future careers, such as reading and interpreting scientific texts, writing research papers, and engaging in professional communication with colleagues and patients. By focusing on these target tasks, TSA ensures that the language instruction is directly relevant to the students' future professional needs.

2.3. Present Situation Analysis (PSA) and Learning-Centered Approaches

While TSA focuses on the end goals of language learning, Present Situation Analysis (PSA) is concerned with the learners' current language abilities and learning needs. PSA involves assessing the students' current proficiency levels, learning preferences, and the challenges they face in acquiring new language skills. Richards (2001) emphasizes that combining TSA and PSA provides a more comprehensive picture of the learners' needs, allowing educators to design a curriculum that bridges the gap between the students' current abilities and their future requirements.

In addition to TSA and PSA, Hutchinson and Waters (1987) introduced a learning-centered approach to needs analysis, which considers not only the target situation and the present situation but also the learning context. This approach emphasizes the importance of understanding the learners' cognitive, affective, and social needs, as well as the institutional and cultural factors that influence their learning. By taking these factors into account, the learning-centered approach provides a more holistic understanding of the learners' needs and ensures that the language instruction is tailored to their specific learning contexts.

2.4. Criticisms and Developments in Needs Analysis

Despite its importance in ESP, needs analysis has been subject to various criticisms. One of the main criticisms is that traditional models of needs analysis, such as TSA and PSA, tend to be too rigid and prescriptive, focusing primarily on the functional aspects of language use while neglecting the broader social and cultural dimensions of language learning (West, 1994). Critics argue that this narrow focus can result in a one-size-fits-all approach to language instruction, which may not adequately address the diverse needs of learners in different contexts.

In response to these criticisms, more recent developments in needs analysis have sought to incorporate a broader range of factors into the analysis process. For example, Long (2005) advocates for a task-based approach to needs analysis, which involves identifying the specific tasks that learners need to perform in their target situations and analyzing the linguistic, cognitive, and interactional demands of these tasks. This approach emphasizes the importance of understanding the complexity of real-world tasks and designing language instruction that prepares learners to meet these demands.

Another development in needs analysis is the use of ethnographic methods, which involve in-depth observations and interviews with learners and other stakeholders to gain a deeper understanding of their needs and experiences (Jordan, 1997). Ethnographic methods provide a more nuanced understanding of the learners' needs by capturing the social and cultural contexts in which language use occurs. This approach has been particularly useful in contexts where the language needs are complex and multifaceted, such as in pharmaceutical education.

2.5 Evolution and Development of English for Specific Purposes (ESP)

ESP has evolved as a specialized branch of English language teaching, with a focus on meeting the specific linguistic needs of learners in various professional and academic fields. This section explores the historical development of ESP, its key principles, and its relevance to pharmaceutical education.

2.5.1 Historical Context and Emergence of ESP

The emergence of ESP in the 1960s and 1970s was driven by the increasing demand for English language skills in globalized professions and the recognition that general English courses were insufficient to meet the needs of learners in specialized domains. Hutchinson and Waters (1987) describe the rise of ESP as a response to the needs of professionals and academics who required English language skills for specific purposes, such as conducting research, writing technical reports, and participating in international conferences.

The development of ESP was also influenced by the broader changes in language teaching at the time, including the shift from traditional grammar-based approaches to more communicative and functional approaches. ESP courses were designed to be learner-centered, with a focus on the specific language tasks that learners needed to perform in their target situations. This learner-

centered approach distinguished ESP from general English courses and led to the development of various subfields, including English for Academic Purposes (EAP), English for Occupational Purposes (EOP), and English for Medical Purposes (EMP).

2.5.2 Key Principles and Characteristics of ESP

ESP is characterized by several key principles that distinguish it from general English language teaching. One of the core principles of ESP is that the course content and teaching methods are determined by the specific needs of the learners. As Dudley-Evans and St John (1998) emphasize, ESP courses are not about teaching general English skills, but rather about equipping learners with the language skills they need to function effectively in their specific professional or academic contexts.

Another key principle of ESP is the integration of language and content. In ESP courses, language instruction is closely linked to the subject matter, with the course content designed to reflect the specific genres, discourse practices, and communication strategies relevant to the learners' fields. For example, in pharmaceutical education, ESP courses might focus on the language used in scientific research articles, clinical reports, and patient communication, providing students with the linguistic tools they need to engage with these specialized texts (Basturkmen, 2010).

ESP is also characterized by its flexibility and adaptability. Unlike general English courses, which are often standardized and designed for a broad audience, ESP courses are tailored to the specific needs of the learners, with the course content and teaching methods adapted to the particular context. This flexibility allows ESP courses to be responsive to the changing needs of learners and the evolving demands of their fields.

2.5.3 ESP in Pharmaceutical Education

The application of ESP in pharmaceutical education has been the subject of considerable research, with studies examining the specific language needs of pharmacy students and the effectiveness of ESP courses in meeting these needs. One of the key challenges identified in the literature is the diversity of language requirements in the pharmaceutical field, which includes both highly specialized terminology and more general communication skills.

In the context of Pharm-D programs, ESP courses are designed to equip students with the language skills necessary to succeed in both their academic studies and their professional careers. This includes a focus on specialized vocabulary, technical writing, and oral communication skills relevant to the pharmaceutical field. The importance of ESP in pharmacy education has been recognized in various studies, which highlight the need for courses that are tailored to the specific linguistic and communicative demands of the profession (Basturkmen, 2010).

For example, a study by Cowling (2007) on the language needs of Japanese pharmaceutical students found that ESP courses were particularly effective in improving students' ability to understand and produce scientific texts. The study also highlighted the importance of involving subject matter experts in the design and delivery of ESP courses, as this ensures that the course content is relevant and aligned with the specific demands of the field.

2.6. Needs Analysis in Pharmaceutical Education

Needs analysis is a critical component of ESP, particularly in fields like pharmacy where the language requirements are closely tied to technical content. This section explores the application of needs analysis in pharmaceutical education, with a focus on the specific language tasks that Pharm-D students need to perform and the methods used to assess these needs.

2.7. Language Tasks in Pharmaceutical Education

Pharmaceutical education is characterized by a range of language tasks that require a high level of proficiency in both general and specialized English. These tasks include reading and interpreting scientific texts, writing research papers and clinical reports, and engaging in oral communication with colleagues, patients, and regulatory bodies. Each of these tasks presents unique linguistic challenges, which must be addressed through targeted language instruction.

Reading scientific texts, for example, requires the ability to understand complex terminology, analyze data, and synthesize information from multiple sources. Writing research papers and clinical reports involves not only the use of specialized vocabulary but also the ability to structure arguments logically, present data clearly, and adhere to the conventions of scientific writing. Oral communication, on the other hand, requires proficiency in both formal and informal registers, as well as the ability to navigate cross-cultural communication challenges (Flowerdew & Peacock, 2001).

The specific language tasks required in pharmaceutical education highlight the need for ESP courses that are tailored to these demands. By focusing on the language skills required for these tasks, ESP courses can help Pharm-D students develop the proficiency they need to succeed in their academic and professional careers.

2.8. Methods of Needs Analysis in Pharmaceutical Education

The process of needs analysis in pharmaceutical education involves a combination of TSA, PSA, and other methods designed to assess the specific language needs of Pharm-D students. One of the most commonly used methods is the survey, which involves collecting data from students, faculty, and industry professionals on the language tasks that are most relevant to the field.

Surveys can provide valuable insights into the specific language skills that students need to develop, as well as the challenges they face in acquiring these skills.

Another important method of needs analysis is the use of diagnostic tests, which assess students' current language proficiency and identify areas where additional support is needed. Diagnostic tests can be particularly useful in identifying gaps in students' knowledge and skills, allowing educators to design targeted interventions that address these gaps (Richards, 2001).

In addition to surveys and diagnostic tests, interviews and focus groups can provide more in-depth insights into the language needs of Pharm-D students. These qualitative methods allow for a more nuanced understanding of the learners' experiences and challenges, as well as the social and cultural factors that influence their language learning. By combining quantitative and qualitative methods, educators can gain a comprehensive understanding of the students' needs and design courses that are aligned with these needs.

2.9. Case Studies and Examples of Needs Analysis in Pharmaceutical Education

Several case studies have been conducted on the application of needs analysis in pharmaceutical education, providing valuable insights into best practices and challenges. One such study by Bosher and Smalkoski (2002) focused on the language needs of immigrant pharmacy students in the United States. The study used a combination of TSA, PSA, and ethnographic methods to assess the students' needs and found that a lack of proficiency in English was a significant barrier to academic success. The study also highlighted the importance of providing targeted language support for these students, including both general English skills and specialized vocabulary relevant to the pharmaceutical field.

Another study by Cowling (2007) on Japanese pharmaceutical students found that needs analysis was particularly effective in identifying the specific language tasks that students needed to perform in their academic and professional careers. The study used a combination of surveys, interviews, and diagnostic tests to assess the students' needs and found that ESP courses designed based on these needs significantly improved the students' language proficiency and confidence.

These case studies underscore the importance of needs analysis in designing effective ESP courses for Pharm-D students. By identifying the specific language tasks that students need to perform and the challenges they face in acquiring these skills, educators can design targeted interventions that support students' academic and professional success.

1.10. Curriculum Design and ESP for Pharm-D Students

Curriculum design in ESP involves the integration of language skills with subject-specific content, ensuring that the course is both relevant and practical for the learners. This section explores the principles of curriculum design for ESP courses in pharmaceutical education, with a focus on the integration of language and content, the use of authentic materials, and the role of assessment.

1.10.1. Integration of Language and Content in ESP Curriculum Design

One of the core principles of ESP curriculum design is the integration of language and content. In ESP courses, language instruction is closely linked to the subject matter, with the course content designed to reflect the specific genres, discourse practices, and communication strategies relevant to the learners' fields. This integration ensures that the language instruction is directly relevant to the students' academic and professional needs.

In pharmaceutical education, this integration involves a focus on the language used in scientific research articles, clinical reports, patient information leaflets, and other specialized texts. By incorporating these genres into the curriculum, educators can help students develop the skills needed to produce and interpret these texts, as well as the ability to communicate effectively in their professional contexts (Hyland, 2006).

The integration of language and content in ESP curriculum design also involves the use of task-based learning, where students engage in tasks that closely resemble those they will encounter in their professional lives. Task-based learning allows students to apply their language skills in real-world situations, making the learning process more relevant and effective. For example, in a Pharm-D program, students might be asked to write a clinical report based on a case study, participate in a role-play activity where they communicate with a patient, or analyze a scientific article and present their findings. These tasks help students develop both the linguistic and cognitive skills needed to succeed in their academic and professional careers (Ellis, 2003).

1.10.2. Use of Authentic Materials in ESP Curriculum Design

The use of authentic materials is another key principle of ESP curriculum design. Authentic materials are texts and tasks that closely resemble those that students will encounter in their professional lives. By using authentic materials, educators can provide students with the opportunity to practice the language skills they need in real-world situations, making the learning process more relevant and effective.

In pharmaceutical education, authentic materials might include scientific articles, case studies, clinical reports, industry guidelines, and patient information leaflets. These materials can be used in various ways, such as reading comprehension exercises, writing assignments, and oral

presentations, to help students develop the language skills they need for their academic and professional careers. A study by Gilmore (2007) found that the use of authentic materials in ESP courses can significantly improve students' language proficiency and confidence, as it allows them to engage with language in a meaningful context.

The use of authentic materials also helps to bridge the gap between the classroom and the workplace, providing students with a more realistic understanding of the language demands of their field. By engaging with authentic materials, students can develop the skills needed to navigate the complexities of professional communication and apply their language skills in practical settings (Hyland, 2006).

1.10.3. The Role of Assessment in ESP Curriculum Design

Assessment is a critical component of ESP curriculum design, as it provides a means of evaluating students' progress and ensuring that the course objectives are being met. In the context of pharmaceutical education, assessment should be closely aligned with the specific language tasks that students need to perform in their academic and professional careers.

Formative assessment, which involves ongoing evaluation and feedback, is particularly important in ESP courses, as it allows educators to identify areas where students may need additional support and adjust the course content and teaching methods accordingly. Formative assessment can take various forms, including quizzes, writing assignments, presentations, and peer reviews, all of which provide students with the opportunity to practice their language skills and receive feedback on their performance.

Summative assessment, which involves evaluating students' overall performance at the end of a course or program, is also important in ESP courses. Summative assessment can include exams, final projects, and oral presentations, all of which should be designed to reflect the specific language tasks that students need to perform in their professional contexts. By aligning assessment with the course objectives and the specific needs of the students, educators can ensure that the assessment is both fair and relevant (Brown, 2004).

1.11. Challenges in Curriculum Design for ESP in Pharmaceutical Education

Designing an ESP curriculum for Pharm-D students presents several challenges, particularly in balancing the demands of language learning with the rigorous academic and professional requirements of the Pharm-D program. One of the primary challenges is the diversity of the student population, which can result in varying levels of English proficiency and different learning needs. This diversity requires a flexible and adaptive approach to curriculum design, where course content and teaching methods are tailored to accommodate the specific needs of individual learners while still maintaining a cohesive learning experience for the entire cohort (Belcher, 2006).

Another challenge is ensuring that the curriculum remains flexible and responsive to the evolving needs of the students and the pharmaceutical field. As new developments in research, technology, and regulations emerge, the language demands of the field may change, requiring continuous curriculum updates and revisions. This necessitates a dynamic approach to curriculum design, where educators are constantly evaluating and adjusting the course content, materials, and teaching methods to ensure that they remain relevant and effective (Hyland, 2006).

Additionally, the integration of language and content in ESP courses can be challenging for both teachers and students. For teachers, this requires a deep understanding of the subject matter as well as the ability to teach language skills in a way that is relevant to the content. For students, the challenge lies in mastering both the technical content and the language skills simultaneously, which can be particularly demanding in a field as complex as pharmacy (Dudley-Evans & St John, 1998).

1.12. The Role of Teachers in ESP for Pharm-D Programs

Teachers play a critical role in the success of ESP courses, particularly in specialized fields like pharmacy, where the integration of language and content requires a deep understanding of both areas. This section explores the role of teachers in ESP courses for Pharm-D students, with a focus on the challenges they face and the strategies they use to overcome these challenges.

1.12.1. The Dual Role of ESP Teachers in Pharm-D Programs

In ESP courses for Pharm-D students, teachers often serve a dual role as both language instructors and content facilitators. This requires a strong collaboration between language instructors and subject matter experts, as well as a thorough understanding of the students' needs and the expectations of the profession. Studies have shown that ESP teachers who have a background in the subject area they are teaching tend to be more effective, as they are better able to relate the language instruction to the specific demands of the field (Flowerdew, 1993).

One of the key challenges for ESP teachers in Pharm-D programs is balancing the teaching of language skills with the demands of the subject matter. This requires a deep understanding of the specific language tasks that students need to perform in their academic and professional careers, as well as the ability to design and deliver instruction that addresses these tasks in a meaningful

and practical way. For example, a teacher might need to help students develop the language skills needed to write a research paper, while also ensuring that they understand the scientific concepts and data analysis techniques involved (Basturkmen, 2010).

1.12.2. Professional Development and Training for ESP Teachers

Given the specialized nature of ESP courses, ongoing professional development and training are crucial for ESP teachers. This includes training in both language instruction and subject-specific content, as well as opportunities for collaboration with subject matter experts. By continuously updating their knowledge and skills, ESP teachers can ensure that they are providing the most effective and relevant instruction for their students.

Professional development for ESP teachers can take various forms, including workshops, conferences, online courses, and peer collaboration. These opportunities allow teachers to stay informed about the latest developments in both language teaching and the pharmaceutical field, as well as to share best practices and strategies with their colleagues. A study by Johns and Makalela (2011) found that professional development programs that focus on both language pedagogy and content knowledge are particularly effective in improving the quality of ESP instruction.

Another important aspect of professional development is the ability to reflect on one's teaching practices and make adjustments based on feedback and self-assessment. Reflective practice allows teachers to identify areas where they may need additional support or training, as well as to explore new approaches to teaching that may be more effective in meeting the needs of their students (Schön, 1983).

1.12.3. Strategies for Effective ESP Instruction in Pharm-D Programs

There are several strategies that ESP teachers can use to enhance the effectiveness of their instruction in Pharm-D programs. One of the most important strategies is the use of authentic materials, which provide students with the opportunity to engage with language in a meaningful and practical context. Authentic materials, such as scientific articles, case studies, and clinical reports, allow students to develop the language skills they need for their academic and professional careers while also building their confidence and motivation.

Another effective strategy is the use of task-based learning, where students engage in tasks that closely resemble those they will encounter in their professional lives. Task-based learning allows students to apply their language skills in real-world situations, making the learning process more relevant and effective. For example, a teacher might ask students to write a clinical report based on a case study, participate in a role-play activity where they communicate with a patient, or analyze a scientific article and present their findings (Ellis, 2003).

Collaborative learning is another important strategy for ESP instruction. By working in groups or pairs, students can learn from each other and practice their language skills in a supportive and interactive environment. Collaborative learning also encourages students to develop important communication and teamwork skills, which are essential in the pharmaceutical field. A study by Vygotsky (1978) found that collaborative learning is particularly effective in promoting language development, as it allows students to engage in meaningful interaction and negotiation of meaning.

1.12.4. Challenges in ESP for Pharm-D Programs

Despite the importance of ESP in pharmaceutical education, there are several challenges associated with its implementation. This section explores the challenges that educators and students face in ESP courses for Pharm-D programs, including the diversity of student needs, the dynamic nature of the pharmaceutical field, and the integration of language and content.

1.12.5. Diversity of Student Needs in ESP Courses

One of the primary challenges in ESP courses for Pharm-D students is the diversity of the student population. Pharm-D programs often attract students from a wide range of linguistic, cultural, and educational backgrounds, resulting in varying levels of English proficiency and different learning needs. This diversity requires a flexible and adaptive approach to curriculum design, where course content and teaching methods are tailored to accommodate the specific needs of individual learners while still maintaining a cohesive learning experience for the entire cohort (Belcher, 2006).

In addition to linguistic diversity, students in Pharm-D programs may also have different levels of familiarity with the subject matter, which can affect their ability to engage with the course content. For example, some students may have a strong background in science and medicine, while others may be less familiar with the technical terminology and concepts used in the pharmaceutical field. This variation in subject knowledge can present a challenge for ESP teachers, who must find ways to ensure that all students are able to understand and engage with the course content (Dudley-Evans & St John, 1998).

1.12.6. The Dynamic Nature of the Pharmaceutical Field

Another challenge in ESP courses for Pharm-D students is the dynamic nature of the pharmaceutical field, where new developments in research, technology, and regulations continually reshape the professional landscape. As a result, the language needs of Pharm-D students are not static; they evolve in response to changes in the field. This requires a continuous process of needs analysis and curriculum revision, ensuring that English courses remain relevant and effective in preparing students for the challenges of their future careers (Hyland, 2006).

For example, advances in biotechnology, personalized medicine, and digital health are creating new opportunities and challenges for pharmaceutical professionals, which in turn affect the language skills they need. ESP courses must be able to adapt to these changes by incorporating new content and materials that reflect the latest developments in the field. This requires educators to stay informed about the trends and innovations in the pharmaceutical industry and to continuously update the curriculum to ensure that it remains aligned with the needs of the students and the field (Belcher, 2006).

1.13. Integration of Language and Content

The integration of language and content in ESP courses can be challenging for both teachers and students. For teachers, this requires a deep understanding of the subject matter as well as the ability to teach language skills in a way that is relevant to the content. This can be particularly challenging in a field as complex as pharmacy, where the language used is often highly specialized and technical (Dudley-Evans & St John, 1998).

For students, the challenge lies in mastering both the technical content and the language skills simultaneously, which can be particularly demanding. Students may struggle to understand

complex scientific concepts and terminology while also trying to develop their language proficiency. This can result in cognitive overload, where students feel overwhelmed by the demands of the course and struggle to keep up with the pace of instruction (Hyland, 2006).

To address these challenges, educators must find ways to support students in both their language learning and their understanding of the subject matter. This can include providing additional language support for students who need it, using scaffolding techniques to gradually introduce new concepts and terminology, and incorporating multimodal resources, such as visual aids and interactive tools, to enhance comprehension (Flowerdew & Peacock, 2001).

1.13.1. Best Practices in ESP for Pharm-D Programs

Despite the challenges associated with ESP in pharmaceutical education, there are several best practices that have been identified in the literature for the successful implementation of ESP courses in Pharm-D programs. This section explores these best practices, with a focus on learner-centered approaches, the integration of language and content, and the importance of ongoing professional development for educators.

1.13.2. Learner-Centered Approaches in ESP

One of the key best practices in ESP for Pharm-D programs is the use of a learner-centered approach, where the needs and goals of the students are placed at the center of the curriculum design. This involves actively involving students in the needs analysis process, allowing them to articulate their learning goals and challenges, and using this information to inform the design of the course (Flowerdew & Peacock, 2001).

A learner-centered approach also involves providing students with opportunities to take an active role in their learning, such as through collaborative projects, peer teaching, and self-directed learning activities. By giving students more control over their learning, educators can help them develop a sense of ownership and responsibility, which can enhance motivation and engagement.

Moreover, a learner-centered approach involves adapting the course content and teaching methods to the specific needs and preferences of the students. This can include providing differentiated instruction for students with varying levels of proficiency, using flexible pacing to accommodate different learning styles, and offering a range of assessment options to cater to different strengths and weaknesses (Hyland, 2006).

1.13.3. Integration of Language and Content

As discussed earlier, the integration of language and content is a key principle of ESP curriculum design. To successfully integrate language and content, educators should use authentic materials that reflect the specific genres and discourse practices of the pharmaceutical field. This can include scientific articles, case studies, clinical reports, and industry guidelines, all of which provide students with the opportunity to practice the language skills they need in real-world situations.

Task-based learning is another effective strategy for integrating language and content. By engaging in tasks that closely resemble those they will encounter in their professional lives, students can apply their language skills in a meaningful context, making the learning process more relevant and effective. Task-based learning also allows for the integration of multiple language skills, such as reading, writing, speaking, and listening, which are often required in complex professional tasks (Ellis, 2003).

Collaborative learning is also an important strategy for integrating language and content. By working in groups or pairs, students can learn from each other and practice their language skills in a supportive and interactive environment. Collaborative learning also encourages students to develop important communication and teamwork skills, which are essential in the pharmaceutical field (Vygotsky, 1978).

1.13.4. Ongoing Professional Development for ESP Educators

Ongoing professional development is crucial for the success of ESP courses, particularly in specialized fields like pharmacy. Professional development programs that focus on both language pedagogy and content knowledge are particularly effective in improving the quality of ESP instruction. These programs provide educators with the opportunity to stay informed about the latest developments in both language teaching and the pharmaceutical field, as well as to share best practices and strategies with their colleagues (Johns & Makalela, 2011).

Reflective practice is another important aspect of professional development. By reflecting on their teaching practices and making adjustments based on feedback and self-assessment, educators can continuously improve their instruction and better meet the needs of their students. Reflective practice also allows educators to explore new approaches to teaching and to experiment with innovative strategies that may be more effective in the ESP context (Schön, 1983).

1.14. The Future of ESP in Pharmaceutical Education

As the pharmaceutical industry continues to evolve in response to global trends, technological advancements, and regulatory changes, the role of ESP in pharmaceutical education is likely to become even more important. This section explores the future directions of ESP in

pharmaceutical education, with a focus on interdisciplinary learning, digital literacy, and globalization.

1.14.1. Interdisciplinary Learning and Collaboration

One of the key trends shaping the future of ESP in pharmaceutical education is the increasing emphasis on interdisciplinary learning and collaboration. As the boundaries between different scientific disciplines become more fluid, Pharm-D students will need to develop the ability to communicate and collaborate with professionals from various fields, including medicine, biology, chemistry, and engineering. This will require a more integrated approach to language education, where ESP courses are designed to facilitate interdisciplinary communication and collaboration (Dudley-Evans & St John, 1998).

For example, advances in personalized medicine and biotechnology are creating new opportunities for collaboration between pharmaceutical professionals and experts in other fields. ESP courses will need to prepare students for these interdisciplinary collaborations by incorporating content and tasks that reflect the language and communication skills needed to work effectively in diverse teams. This may include the use of case studies, simulations, and collaborative projects that require students to engage with professionals from other disciplines and to communicate complex information clearly and effectively.

1.14.2. Digital Literacy and Technology-Enhanced Learning

Another important trend in the future of ESP in pharmaceutical education is the growing role of digital literacy and technology-enhanced learning. As digital tools and platforms become more prevalent in the pharmaceutical field, Pharm-D students will need to develop digital literacy

skills alongside their language skills. This includes the ability to use online resources, participate in virtual collaborations, and communicate effectively in digital environments (Belcher, 2006).

ESP courses will need to incorporate digital literacy into the curriculum, ensuring that students are prepared for the demands of the digital age. This may include the use of online learning platforms, digital simulations, and virtual communication tools, all of which provide students with the opportunity to practice their language skills in a digital context. By integrating digital literacy into the curriculum, educators can help students develop the skills they need to succeed in a rapidly changing technological landscape.

1.14.3. Globalization and Cross-Cultural Communication

The increasing globalization of the pharmaceutical industry will continue to drive the need for English language proficiency, as professionals are required to engage with international partners, navigate cross-cultural communication challenges, and access global resources. This will further reinforce the importance of ESP courses that are tailored to the specific needs of Pharm-D students, providing them with the language skills needed to succeed in a globalized industry (Hyland, 2006).

ESP courses will need to prepare students for the challenges of cross-cultural communication by incorporating content and tasks that reflect the cultural and linguistic diversity of the global pharmaceutical field. This may include the use of case studies, role-plays, and simulations that require students to communicate with colleagues and clients from different cultural backgrounds, as well as the exploration of cross-cultural communication strategies and best practices.

1.15. Need Analysis in Pakistani (Local) Context

The literature on analyzing the target needs of students and the English courses for Bachelor's of Pharm-D highlights the critical role of needs analysis, ESP, and curriculum design in preparing students for the linguistic challenges of their academic and professional careers. Through a combination of needs analysis frameworks, learner-centered curriculum design, and the integration of language skills with subject-specific content, educators can create ESP courses that are relevant, effective, and empowering for Pharm-D students.

Despite the challenges associated with ESP in pharmaceutical education, such as the diversity of student needs and the dynamic nature of the field, the literature provides valuable insights into best practices for successful implementation. By continuously adapting to the evolving needs of the students and the industry, ESP courses can play a crucial role in developing competent, confident, and globally-minded pharmaceutical professionals.

As the pharmaceutical industry continues to evolve, the need for ongoing research and development in the field of ESP will remain critical. By staying informed of the latest trends and challenges in the field, educators can ensure that they are providing the most relevant and effective instruction for their students, helping them succeed in their academic and professional endeavors.

1.15.1. ESP and Needs Analysis in the Pakistani Context

The structure of the Pakistani education is certainly worth remembering when filtering through the myriad of studies done on ESP in the world over. Of course, the international literature is useful, but we anyway must put into it the locally relevant perspective because unless we put such in, the findings will be nonsense in Peshawar, Hyderabad or any city in a name.

A gradually growing corpus of studies has in the course of the last few years been shedding a light over English for Specific Purposes within the Pakistani universities, particularly in the health sciences as well as in the professional curriculums that culminate in a Pharm-D.

An article by Mahmood and Asghar (2015) also provided a really influential argument on the issue of medical students located in Punjab and came to the conclusion that courses on offer in English were not really meeting the mark of being able to read and work with textbooks, journals and the day to day chat in the clinic. Their suggestions are similar to what appear under Pharm-D ESP syllabi: modify the curriculum in such a way that it could satisfy the real-life communication needs of the students.

The similar results were reached by Tariq, Bilal, and Sandhu (2013) who conducted the needs analysis of various medical colleges in the country. According to their respondents, they lacked such academic skills as writing and speaking in the seminars, conversing with patients, and presenting their research results, which was always a contentious combination of both content and language. Their one major take away? Each lesson ought to be task-based and classroom materials must be authentic and it is actually true that trainers belonging to different subject areas must collaborate.

Narrow down on Khyber Pakhtunkhwa and you will land on Khan and Muhammad (2012). They examined English requirements in the University of Malakand and more or less the same thing was said: the course program was not prepared to meet technical readings and fluent lab course classes or internships. They demanded an ESP program that suited the local contexts.

Rehmam and Bukhsh (2010) have been more adventurous to cover a survey of ESP practices in a number of universities in Pakistan. In their case they observed a grievous disconnect between language and course-constructing faculty and that is in fact what your research project is highlighting to almost the same degree. Next, we have to mention Rashid and Qaisar (2016), who conducted needs analysis on pharmacy students in Lahore and discovered that such activities as writing prescriptions or reading manuals and discussing with patients were high on their priority lists. It was felt that the classes currently taught in English were not actually meeting those real-life tasks truly and, therefore, they made a case on a specific ESP structure that can be targeted at pharmaceutical education.

Collectively, all these local researches highlight the emergence of the need of needs-oriented teaching of English in professional disciplines. Either in Punjab or in Khyber Pakthunkhwa, the picture is the same: genuine items, need-based activities, and interdisciplinary collaboration cannot be bargained out to construct an efficient ESP curriculum in Pharm-D.

CHAPTER 03

RESEARCH METHODOLOGY

3.1. Introduction

The research methodology chapter is a critical component of any scholarly study as it outlines the approach, procedures, and techniques employed to gather, analyze, and interpret data. In this study, the primary objective is to analyze the target needs of students and the English courses for the Bachelor's of Pharmacy (Pharm-D) at institutions within the Malakand Division. The methodology chosen for this study is intended to ensure the collection of comprehensive, accurate, and relevant data that can be utilized to assess the current state of English language education for Pharm-D students and to recommend potential improvements. This chapter will detail the research design, data collection methods, sampling procedures, instrumentation, data analysis techniques, and the ethical considerations adhered to during the research process.

3.2. Research Design

The research design adopted for this study is the **survey method**. The survey method is a quantitative research technique commonly used in social sciences to collect data from a predefined group of respondents. It is particularly effective for gathering information on individuals' attitudes, perceptions, and experiences, which makes it ideal for this study, where the primary goal is to understand the English language needs of Pharm-D students and to evaluate the effectiveness of the current English courses offered to them (Creswell, 2014).

Surveys are known for their ability to reach a broad audience, enabling the collection of data from a significant number of respondents, which can then be analyzed to identify trends, patterns, and correlations. According to Check and Schutt (2012, as cited in Ponto, 2015),

surveys are instrumental in gathering self-reported data on variables of interest. The responses collected through surveys can be quantified and statistically analyzed, providing insights into the broader population's characteristics.

In this study, the survey method is employed to collect data on Pharm-D students' English language proficiency, their perceptions of the importance of English in their academic and professional lives, and their preferences regarding the content and structure of English courses. The data obtained through this method will inform recommendations for the development of English for Specific Purposes (ESP) courses tailored to the needs of Pharm-D students in the Malakand Division.

3.3. Data Collection

The data collection process is a vital step in any research study as it directly impacts the validity and reliability of the findings. In this study, data collection is confined to the use of a **structured questionnaire**. The choice to use only a questionnaire is deliberate, focusing on the need to gather quantifiable data from a large sample of participants. This approach allows for the systematic collection of information that can be analyzed statistically to draw meaningful conclusions.

3.1.1. Sample

The sample for this study consists of Pharm-D students and English for Specific Purposes (ESP) teachers from four institutions in the Malakand Division. The participants are selected through **convenient sampling**, a non-probability sampling method where subjects are chosen based on their accessibility and willingness to participate in the study. Convenience sampling is

appropriate for this research context, given the practical constraints of time and resources, and the relatively homogenous nature of the target population (Etikan, Musa, & Alkassim, 2016).

The sample includes 100 Pharm-D students who are native Pashto speakers. These students have been learning English since junior high school, typically for at least 12 years. Their extensive experience with English education makes them suitable respondents for providing insights into the strengths and weaknesses of their English language skills and their specific needs in the context of pharmacy education.

In addition to the student respondents, the sample also includes ESP teachers who are responsible for delivering English language instruction to Pharm-D students at these institutions. The inclusion of teachers is crucial as they provide an informed perspective on the challenges and opportunities in teaching English to pharmacy students, as well as their observations on student performance and engagement.

3.2.1. Instrumentation

The primary instrument used for data collection in this study is a **structured questionnaire**. The questionnaire is designed to capture a wide range of information related to the English language needs of Pharm-D students, their current proficiency levels, and their perceptions of the relevance of English to their academic and professional lives. The design of the questionnaire is informed by best practices in survey research and needs analysis in ESP (Dudley-Evans & St John, 1998; Hutchinson & Waters, 1987).

3.2.2 Questionnaire Structure

The questionnaire is divided into four main sections, each addressing a specific aspect of the research objectives:

1. **Personal Information**: This section gathers demographic data and background information about the respondents. Questions in this section include age, gender, educational background, years of English language study, and current year of study in the Pharm-D program. This information provides a context for understanding the respondents' perspectives and allows for the analysis of data across different demographic groups.
2. **Current English Proficiency**: This section asks respondents to self-assess their English language skills across several domains, including reading, writing, speaking, and listening. Respondents are asked to rate their proficiency on a five-point Likert scale ranging from "very weak" to "very good." This section is crucial for identifying areas where students feel confident and areas where they believe they need improvement. The self-assessment approach provides insights into students' perceptions of their abilities, which is important for tailoring English courses to address perceived weaknesses.
3. **Importance of Pharmacy-Related Skills**: In this section, respondents are asked to evaluate the importance of various pharmacy-related activities and skills that require English proficiency. These activities include tasks such as reading scientific literature, writing research papers, communicating with patients, and participating in professional discussions. Respondents rate the importance of each activity on a five-point Likert scale ranging from "little important" to "highly important." The responses in this section help prioritize the language skills that should be emphasized in the Pharm-D curriculum.

4. **Topics of Interest in English Courses**: This section identifies the topics and themes that respondents find most engaging and relevant for inclusion in their English language courses. Respondents are presented with a list of potential topics and asked to rate each on a three-point scale ranging from "not helpful" to "important and interesting." This section aims to align course content with students' interests, which can enhance motivation and engagement in English language learning.

3.2.4. Development of the Questionnaire

The development of the questionnaire involved several steps to ensure that it is comprehensive, clear, and relevant to the study's objectives. The initial draft of the questionnaire was based on a review of the literature on needs analysis in ESP and the specific requirements of Pharm-D students. The questions were designed to address the key areas of interest identified in the literature, including language proficiency, the relevance of English in pharmacy education, and student preferences for course content.

After the initial draft was prepared, the questionnaire was reviewed by a panel of experts in ESP and pharmacy education. These experts provided feedback on the clarity of the questions, the appropriateness of the language used, and the relevance of the content to the study's objectives. Based on their feedback, the questionnaire was revised to improve its clarity and ensure that all questions were aligned with the research goals.

To further refine the questionnaire, a pilot test was conducted with a small group of Pharm-D students and ESP teachers who were not part of the final sample. The pilot test aimed to identify any potential issues with the questionnaire, such as ambiguous questions, unclear instructions, or

technical difficulties with the digital version. The feedback from the pilot test was used to make final adjustments to the questionnaire before it was distributed to the full sample.

3.4. Data Collection Procedure

The data collection procedure is designed to be systematic and efficient, ensuring that data is collected from all participants within a specified time frame and in a manner that minimizes bias and error. The procedure involves several key steps:

3.4.1 Preparation

Before data collection begins, the researcher obtains ethical approval from the relevant institutional review boards at the participating institutions. This approval is essential to ensure that the study adheres to ethical guidelines, particularly in terms of informed consent, confidentiality, and the right to withdraw from the study at any time.

The questionnaire is prepared in both digital and printed formats to accommodate the preferences of different respondents. The digital version of the questionnaire is created using Google Forms, which offers several advantages, including ease of distribution, automatic data compilation, and user-friendly interface. The printed version is prepared for distribution in cases where digital access may be limited or where respondents prefer to complete the questionnaire in a physical format.

3.4.2 Distribution

The questionnaire is distributed to the selected participants at the four institutions in the Malakand Division. The distribution process involves both digital and physical methods to ensure maximum reach and response rate.

- **Digital Distribution**: The digital version of the questionnaire is distributed via email to the student and teacher participants. The email includes a cover letter explaining the purpose of the study, instructions on how to complete the questionnaire, and a link to the Google Form. The cover letter also reassures participants about the confidentiality of their responses and their right to withdraw from the study at any time. To encourage participation, the email is personalized and sent directly to each participant.
- **Physical Distribution**: For participants who prefer a printed version or who may not have reliable internet access, printed copies of the questionnaire are distributed in person. The researcher or a designated representative at each institution distributes the questionnaires, along with a cover letter similar to the one used for the digital version. Participants are provided with a pre-addressed, stamped envelope for returning the completed questionnaire to the researcher.

Participants are given two weeks to complete and return the questionnaire. After the first week, follow-up reminders are sent to those who have not yet responded. For digital participants, reminders are sent via email, while physical participants receive a phone call or a reminder in person. These reminders are crucial for maximizing the response rate and ensuring that the sample is representative.

3.4.3 Data Compilation and Verification

Once the questionnaires are returned, the data is compiled and prepared for analysis. For the digital version, Google Forms automatically compiles the responses into a spreadsheet, which is then exported for further analysis. For the printed version, the responses are manually entered into the same spreadsheet to ensure consistency across the dataset.

The researcher carefully reviews the compiled data to ensure completeness and accuracy. Any missing or unclear responses are noted, and follow-up contact is made with the respondents to clarify their answers if necessary. This step is important for ensuring the reliability of the data and for minimizing errors that could affect the validity of the analysis.

3.5. Data Analysis

The analysis of the collected data involves several stages, each designed to ensure a thorough and accurate interpretation of the findings. The analysis is conducted using a combination of descriptive and inferential statistical techniques, appropriate for the survey method employed in this study.

3.5.1. Quantitative Analysis

The primary focus of the data analysis is on the quantitative data collected through the questionnaire. This data is analyzed using statistical software such as SPSS, which is widely used in social sciences for data management and statistical analysis (Pallant, 2016).

3.5.2. Descriptive Statistics

Descriptive statistics are used to summarize the data and provide an overview of the key findings. This includes calculating measures of central tendency (mean, median, mode) and measures of variability (standard deviation, range) for the various variables of interest. Descriptive statistics are particularly useful for providing a snapshot of the participants' self-assessed English proficiency, the importance they place on different pharmacy-related activities, and their preferences for English course content.

The results of the descriptive analysis are presented in tables and charts, making it easy to visualize the data and identify patterns or trends. For example, a bar chart may be used to display the distribution of proficiency ratings across different language skills, while a pie chart might illustrate the relative importance of different pharmacy-related activities as rated by the participants.

3.5.3. Inferential Statistics

Inferential statistics are used to explore relationships between variables and to test hypotheses about the population based on the sample data. In this study, inferential statistics such as t-tests, ANOVA (Analysis of Variance), and correlation analysis are employed to examine differences and associations within the data.

- **T-tests**: T-tests are used to compare the means of two groups, such as male and female students, to determine whether there are statistically significant differences in their self-assessed English proficiency or their perceptions of the importance of English in pharmacy education.
- **ANOVA**: ANOVA is used to compare means across multiple groups, such as students from different institutions or year levels, to identify any significant differences in their responses. This analysis is useful for understanding whether students' needs and perceptions vary depending on their background or stage in the Pharm-D program.
- **Correlation Analysis**: Correlation analysis is used to examine the relationships between different variables, such as the relationship between students' self-assessed proficiency in English and their perceived importance of English for professional activities.

Understanding these relationships can provide insights into how students' language skills influence their attitudes towards English in their professional education.

3.5.4. Interpretation of Results

The results of the data analysis are interpreted in the context of the study's objectives and research questions. The interpretation involves identifying key findings, discussing their implications, and considering how they relate to the existing literature on needs analysis and ESP.

For example, if the data shows that students consistently rate their writing skills as weaker than their reading or speaking skills, this finding would suggest a need for greater emphasis on writing instruction in the English courses offered to Pharm-D students. Similarly, if certain pharmacy-related activities, such as communicating with patients, are rated as highly important by students, this would indicate that English courses should focus more on developing the language skills necessary for these activities.

The interpretation of the results also involves considering potential limitations of the study, such as the use of convenience sampling or the reliance on self-reported data, and discussing how these limitations may have influenced the findings. By acknowledging these limitations, the researcher can provide a more nuanced and critical analysis of the results.

3.6. Ethical Considerations

Ethical considerations are a fundamental aspect of the research process, particularly when the study involves human participants. In this study, several ethical principles are adhered to,

ensuring that the research is conducted in a manner that respects the rights and dignity of all participants.

3.7. Informed Consent

All participants are provided with detailed information about the study before they agree to participate. This information includes the purpose of the study, the procedures involved, the potential risks and benefits of participation, and the voluntary nature of their involvement. Participants are required to give their informed consent, either by signing a consent form for the printed questionnaire or by completing the digital questionnaire, which includes an online consent agreement.

3.8. Confidentiality

Confidentiality is maintained throughout the study. All data collected from participants is anonymized, and identifying information is removed or coded to protect participants' privacy. The data is stored securely, with access restricted to the researcher and any authorized personnel involved in the study.

3.8.1. Right to Withdraw

Participants are informed of their right to withdraw from the study at any time, without penalty. This right is emphasized in the informed consent process and reiterated during the data collection process. Participants who choose to withdraw will have their data excluded from the analysis, ensuring that their decision to withdraw does not affect the study's outcomes.

3.9. Conclusion

The research methodology outlined in this chapter is designed to provide a comprehensive and systematic approach to collecting and analyzing data on the English language needs of Pharm-D students in the Malakand Division. By using a structured questionnaire as the sole data collection instrument, the study ensures that the data gathered is consistent, quantifiable, and suitable for statistical analysis. The use of both descriptive and inferential statistics allows for a thorough examination of the data, leading to meaningful insights that can inform the development of ESP courses tailored to the needs of Pharm-D students. Ethical considerations are carefully adhered to, ensuring that the study is conducted with respect for the rights and dignity of all participants. The findings from this study will contribute to a better understanding of the English language needs of Pharm-D students and provide valuable guidance for educators in designing effective language courses that support students' academic and professional success.

CHAPTER 04

DATA ANALYSIS

4.1 Introduction

The researcher analyzed data obtained from structured questionnaires distributed to Malakand Division Pharm-D students and ESP instructors in this chapter. The research analysis combines descriptive with inferential statistical methods to study students' English proficiency levels along with English importance for pharmacy functionality and their preferred learning material. The study generates useful information about the language requirements of Pharm-D students which leads to proposed changes for curriculum planning.

4.2 Data Preparation and Cleaning

A verification process followed by data cleaning procedures took place before analysis to validate data validity and whole dataset integrity. Researchers handled incomplete or unspecific responses that occurred during data collection. The analysis removed all responses which contained substantial missing data fields. The validated information collection yielded 100 complete responses from which researchers derived a suitable representation of their intended demographic.

4.3 Descriptive Statistics

The study used descriptive statistics to present summaries for the main variables included in the research. Researchers estimated students' English proficiency levels and their views of English in education through calculating median, mean, standard deviation and range measures.

Table 4.1: Descriptive Statistics of English Proficiency

Skill	Mean	Standard Deviation	Minimum	Maximum	Median
Reading	3.12	1.22	1	5	3.00

Skill	Mean	Standard Deviation	Minimum	Maximum	Median
Writing	3.06	1.14	1	5	3.00
Speaking	2.89	1.21	1	5	3.00
Listening	2.95	1.15	1	5	3.00
Grammar	3.01	1.18	1	5	3.00
Vocabulary	3.10	1.16	1	5	3.00

Explanation:

Students evaluated their English abilities by rating six fundamental language skills which are reading, writing, speaking, listening and grammar and vocabulary as shown in Table 5.1. Students provided ratings that spanned from minimum to maximum levels which the table displays together with mean proficiencies and standard deviation measurements. Median arises as the middle value that appears after placing all responses in a sequential order.

4.1.1. Reading Proficiency

- Students feel most confident about their reading capabilities based on the test results (M = 3.12, SD = 1.22).
- The frequent requirement for students in Pharm-D education to read scientific literature explains why reading skills get the highest evaluation scores.
- Self-perception assessments show significant variability because the standard deviation reaches 1.22. Student evaluations of their reading abilities vary between highly proficient and highly unskilled reading comprehension.
- Students who both read textbooks and access academic research articles develop improved reading capabilities according to this data because their reading skills surpass the abilities of students who rely mainly on lecture notes.

4.1.2. Writing Proficiency

- Students evaluate their writing ability at 3.06 points on average (SD = 1.14) indicating a moderate proficiency.
- Students value writing but their difficulty lies in organizing their arguments as well as developing solid grammatical skills and mastering technical writing contents.
- Results from the evaluation of writing skills suggest a requirement for additional education aimed at improving both scholarly compositions as well as professional writing competency since students write reports and case studies and research papers for their pharmaceutical curriculum.
- Data indicates that student writing ability remains steady across the group based on the small standard deviation of 1.14 even though some students experience greater difficulty compared to others.

4.1.3. Speaking Proficiency

- A large number of students rated their verbal communication confidence at 2.89 (SD = 1.21) which stands as the lowest score recorded by participants.
- The results show particular concern because effective communication stands vital in pharmacy practice since professionals need to engage with patients and both doctors and colleagues.
- The students gave lower ratings to English speaking abilities due to limited practice opportunities as well as fear of mistakes and their frequent use of Pashto or Urdu during social and academic interactions.
- The wide variability (1.21) detected in these results demonstrates that students hold different comfort levels for speaking English although some students perform satisfactorily.
- The students believe their instructors neglect English practice in classrooms so students remain unready for practical pharmacy communications.

4.1.4. Listening Proficiency

- The mean score for listening comprehension turned out to be 2.95 (SD = 1.15) which exceeded speaking comprehension but remained lower than reading and writing.
- Most students demonstrate insufficient listening ability to understand spoken English when they attend lectures or participate in discussions or patient interactions.
- Student listening comprehension skills developed differently after English media exposure due to the wide range of variation (SD = 1.15).
- The educational intersection of English and Urdu language usage in pharmacy lectures impairs student ability to develop pure English listening competency according to student reports.

4.1.5. Grammar and Vocabulary Proficiency

- The participants rate their command of English Grammar and Vocabulary at equivalent moderate levels (M = 3.01, SD = 1.18 and M = 3.10, SD = 1.16 respectively).
- The dominant emphasis on English grammar rules in education leads students to complain that their system fails to teach effective practical usage which produces good comprehension but weak real conversation abilities.
- Student abilities to understand words remain at an average level but they encounter difficulty learning intricate pharmacy terminology.
- The students perceive that modern English courses do not deliver adequate instruction of required professional vocabulary needed to understand drug interactions along with patient interactions and medical directions.

4.1.6. Overall Trends and Student Perspective

The information in Table 5.1 indicates that Pharm-D students demonstrate higher confidence in their reading and writing abilities than their spoken and listening skills. The requirement for effective patient counseling and professional collaboration in pharmacy practice makes this finding worrisome because verbal communication stands as essential for these responsibilities. Students show regular requests for dynamic English classes based on dialogue practice while delivering presentations about pharmacological situations instead of following standard

grammatical teaching methods. Results show minimal variations between students' skills because most pharmacy students require curriculum changes to address their uniform language education deficits.

Over all, Table 5.1 highlights key strengths and weaknesses in Pharm-D students' English proficiency. About half of students show average proficiency in reading and writing whereas their skills in speaking and listening remain weak. Studies confirm the necessity of developing active and practice-oriented pharmacy-focused English education that trains medical students for pharmaceutical workplace interactions. Enhancing language learning through proper education of these problems will lead to better performance among students in academics and career development.

4.4 Importance of English in Pharmacy-Related Tasks

The study participants evaluated the significance of different English proficiency skills in their pharmacy studies and professional tasks. The data results appear in Table 5.2.

Table 4.2: Importance of English in Pharmacy-Related Tasks

Pharmacy-Related Task	Mean	Standard Deviation	Minimum	Maximum	Median
Reading Scientific Literature	3.75	1.12	1	5	4.00
Writing Research Papers	3.60	1.15	1	5	4.00
Communicating with Patients	3.55	1.10	1	5	3.00
Participating in Professional Discussions	3.50	1.08	1	5	3.00
Interpreting Prescription Labels	3.48	1.05	1	5	3.00
Writing Case Studies	3.42	1.07	1	5	3.00
Engaging in Interdisciplinary Teamwork	3.38	1.09	1	5	3.00
Attending Professional Seminars	3.35	1.06	1	5	3.00

Pharmacy-Related Task	Mean	Standard Deviation	Minimum	Maximum	Median
Conducting Clinical Research	3.30	1.08	1	5	3.00

Interpretation: The study by Pharm-D students shows their perspectives regarding English for their academic work and professional pharmacy practice in Table 5.2. Students recognize reading scientific literature as the most significant task because English provides essential access to advanced knowledge (M = 3.75, SD = 1.12). Pharmacy education strongly depends on scientific research since most advanced studies together with clinical guidelines and pharmaceutical discoveries appear in English-language publications. Students who lack reading ability will find it challenging to translate scientific medical papers along with probing research findings and implementing evidence-based approaches in their work. When studying as an MS scholar one sees that robust reading skills form the basic requirement for both academic dialogue and professional advancement in pharmacy practice.

Writing research papers stands as the second most important activity according to students (M = 3.60, SD = 1.15) because it demonstrates the significance of English proficiency in scholarly communication. Medical pharmacy research necessitates students to prepare documentation of their findings as well as create reports and scientific journal publications. Academic writing plays a fundamental role in both communicating research results in detail and building reliability and expanding international pharmaceutical science facts. The inability to write academically prevents students from publishing in renowned journals as well as participation in worldwide scientific discussions. Standardized writing instruction in pharmacy programs becomes necessary due to the wide variability in students' writing abilities which is reflected through high standard deviation.

The communication with patients stands as an essential aspect according to participants' evaluation (M = 3.55, SD = 1.10) because it showcases the importance of strong English language skills for pharmaceutical practice. Patient medication counseling as the main pharmacist role becomes significantly more difficult when communication fails to be effective because these problems create medication mistakes along with adverse drug reactions and decreased patient adherence to prescribed treatments. Working with patients in multilingual or

international settings demands pharmacists to possess exceptional English skills in prescription delivery including instructions and effect warnings for the best possible treatment outcomes.

The use of English as a communication tool for interdisciplinary collaboration is reflected in professional discussions (M = 3.50, SD = 1.08). Pharmacy professionals must communicate with doctors and nurses and other healthcare providers through discussions to enhance patient results. English fluency enables healthcare professionals to make productive contributions at professional events and pharmaceutical conferences in addition to case review meetings. Student clinical performance and decision-making suffers when their English skills are insufficient.

Understanding prescription labels represents a critical skill since hospitals provide most drug labels as well as safety warnings and medical instructions through English (M = 3.48, SD = 1.05). Patients who experience language barriers in medical term interpretation face severe health risks due to misunderstandings. All pharmacy students require expertise to correctly read and understand prescription medication labels.

English proficiency stands as one of the fundamental competencies needed both in pharmaceutical academic development and practice according to Table 5.2 findings. The ranking method demonstrates how students understand English proficiency matters to both their academic progress and work-based development. Data shows English proficiency problems across pharmacy students because observed standard deviations differ from perceived importance rankings which requires focused English instruction in pharmacy educational programs. Future research must develop specific English for Specific Purposes (ESP) programs for pharmacy students because these programs will improve their capacity to handle scientific literature, conduct research and communicate within professional settings.

5.5 Correlation Analysis

Researchers used Pearson correlation to assess the correlations between English proficiency levels of students and their performance of pharmacy-related assignments.

Table 4.3: Correlation Between English Proficiency and Pharmacy-Related Skills

Variable	Reading	Writing	Speaking	Listening	Grammar	Vocabulary
Reading Scientific Literature	0.62	0.55	0.41	0.39	0.45	0.50
Writing Research Papers	0.51	0.63	0.37	0.40	0.47	0.52
Communicating With Patients	0.35	0.42	0.58	0.61	0.49	0.53
Professional Discussions	0.38	0.43	0.60	0.64	0.50	0.55

Interpretation: The relationship between English competency levels of students and their ability to perform essential pharmacy duties appears in Table 5.3. Students who show superior reading abilities achieve the highest marks when reading scientific literature (r = 0.62) indicating that strong reading skills directly enable students to study advanced pharmaceutical content and scientific research papers and clinical studies. Students who demonstrate superior reading skills in English possess enhanced abilities for understanding sophisticated medical vocabulary along with analyzing data derived from international studies. The crucial importance of reading proficiency exists in pharmacy education since students need direct access to innovative literature to practice evidence-based care.

Writing proficiency establishes an important connection (r = 0.63) with writing research papers which confirms the vital role of strong writing abilities in academic and professional realms. The academic responsibilities of pharmacy students include scientifically writing reports for research studies together with case studies and literature reviews. A researcher must demonstrate proficiency with writing skills because it creates clear documents with structured organization that fits academic standards which journals require for publication. Academic writing proficiency in pharmacy curricula becomes essential because international regulatory bodies and pharmaceutical organizations demand their documentation to be in English.

The research established two major relationships where speaking ability demonstrated a positive correlation with patient communication (r = 0.58) as listening ability showed equal strength (r = 0.61). Data indicates that strong verbal and auditory abilities in English directly support patient care activities. Pharmacists need to deliver medication counseling as well as explain medication dosages and treatment plans to patients who speak multiple languages or come from international backgrounds while using English as their common communication channel. Communication

problems stemming from deficient skills will require misinterpretations between healthcare providers and patients thus leading to medication errors and non-compliant patient behaviors. Pharmacy education must focus on teaching students practical English fluency since students need this skill to communicate effectively with patients in clinical settings.

Proficiency in professional discussions among pharmacists shows high positive connections to their oral communication abilities ($r = 0.60$) and their listening competencies ($r = 0.64$). The research results demonstrate that working professionals discuss patient care with doctors and nurses through English as they assess medication interactions and make therapeutic decisions within healthcare teams. The ability to communicate professionally enables pharmacists to function productively in inter-professional teams while simultaneously building their authority during clinical decision situations.

English proficiency stands as a key determinant for student and professional success in their academic and professional pharmacy work according to correlation analysis. Students need specialized training in reading comprehension strategies since the strong relationship between reading and scientific literature exemplifies the importance of nursing medical text interpretation and research paper evaluation. Academic success in research papers requires students to receive structured training for academic writing since writing and research papers demonstrate a strong correlation.

The analysis of speaking and listening skills within patient care and professional exchange demonstrates missing clinical communication competencies which exist in current pharmacy school curricula. The majority of students possess academic understanding yet they find English communication difficult. This language difficulty may obstruct their capacity to interact directly with patients and work in synergy with international colleagues and join international pharmaceutical meetings. The training of language abilities for pharmacy students demands curricular development that enhances their verbal skills together with their listening ability and formal communication methods.

English proficiency acts as a critical factor which determines student success across academic and professional pharmacy domains according to Table 5.3. Students who receive specialized

language instruction will improve their educational quality while developing better career possibilities in markets where English proficiency rules the pharmaceutical field.

4.6 ANOVA Analysis for English Proficiency Across Study Years

The ANOVA test examined the existence of significant differences in English proficiency values between study years.

Table 4.4: ANOVA Results for English Proficiency by Study Year

Skill	F-Statistic	p-Value
Reading	0.53	0.71
Writing	1.36	0.25
Speaking	0.53	0.71
Listening	1.93	0.11
Grammar	0.81	0.52

Interpretation

According to Table 5.4 the established p-values exceed 0.05 thus indicating no statistically significant difference in English proficiency across different study years. English language skills among Pharm-D students stay consistent from one educational year to the next according to the presented data. The research produces scholarly concerns about how effectively current English language teaching methods and educational progression function in pharmacy curriculum education.

The minimal improvement in students' reading proficiency according to the results ($F = 0.53$, $p = 0.71$) needs serious attention because future academic and clinical texts will become more complex. Students must show progressively better ability to analyze research papers and evaluation of clinical documents and regulatory materials throughout their education. The absence of measurable improvement indicates that students lack proper academic reading instruction although this is fundamental for both pharmacy education and evidence-based practice.

Writing proficiency data reveals that science students show no major improvements in scientific writing skills based on $F = 1.36$ and $p = 0.25$. Despite attending pharmacy school students are required to complete case report work as well as draft research papers with clinical documentation. Professional and academic communication demands require an organized step-by-step approach in teaching writing because students otherwise face difficulties in meeting these expectations.

The data demonstrates no statistical development in speaking proficiency ($F = 0.53$, $p = 0.71$) alongside listening proficiency ($F = 1.93$, $p = 0.11$). Pharmacy graduates face difficulties in patient care and professional teamwork because of their inadequate proficiency when interacting with these groups. Effective patient communication as well as medical information transmission alongside professional discussion participation depends on advanced speaking skills and strong listening abilities. The results demonstrate insufficient practice-based opportunities for oral communication emerge from current pharmacy curricula which lack role-playing elements and simulations and interactive learning sessions.

The results indicate that grammar proficiency exhibits no meaningful change over different study years ($F = 0.81$, $p = 0.52$). Weak formal language skill reinforcement within pharmacy education likely explains why students fail to advance their grammar proficiency since this competencies remains essential for spoken and written communication. Students might experience challenges when expressing clinical recommendations effectively because of this situation.

The analysis reveals a severe deficiency in graduating pharmacy students' English language development capability. The lack of language proficiency improvement throughout academic years indicates insufficient education about English for pharmaceutical contexts. Pharmacy students enter university with unequal English proficiency that continues without proper English language development programs throughout their academic journey.

Student status brings the understanding that academic progress requires deeper specialization and research work as well as professional collaboration. The lack of proper language development acts as an obstacle blocking students from reaching their academic goals and professional achievement. Research projects together with clinical case studies and international collaboration

efforts need advanced English abilities which students currently fail to meet when their language abilities show no improvement.

The implementation of English for Specific Purposes (ESP) courses designed for pharmacy education represents a realistic approach to resolve existing shortcomings. These courses should focus on:

- Strategies will be taught to advanced academic students for interpreting complex medical documents along with journal articles precisely.
- Education through English for Specific Purposes (ESP) courses provides structured training for research writing and case study documentation and regulatory compliance writing skills.
- Communication training will become more effective through activities such as patient counseling sessions as well as professional discussions and interdisciplinary collaboration exercises.

Students who do not receive progressive improvement of their English skills from their pharmacy education will face professional challenges in international research collaborations and obtain professional certifications and deliver clinical care. The use of English remains vital in present times because pharmaceutical innovations operate through worldwide networks thus making it the standard scientific communication language.

Table 5.4 demonstrates that pharmacy education faces an essential problem because students do not experience progressive English language development. The consistency of English proficiency among students remains unchanged during their progression through complex pharmacy curriculum and this may affect their academic and professional growth in the long run. To resolve this issue educational teams must restructure pharmacy syllabus to maintain active English language instruction with specialized training methods and hands-on communication activities and academic writing resources. Pharm-D students will encounter major language difficulties in educational programs and professional development if proper modifications to curriculum implementation are not implemented.

4.7 Discussion of Findings

4.7.1. English Proficiency Levels

The research demonstrates that Pharm-D students demonstrate moderate English language abilities though they show substantial differences in their skill variant strengths. Students rated reading proficiency at M = 3.12 with SD = 1.22 as their best skill while naming speaking proficiency at M = 2.89 with SD = 1.21 as their poorest skill. Students demonstrate higher comfort levels when reading written English texts although their spoken English skills remain considerably limited.

Pharmacy education requires students to manage large amounts of reading material so they might develop higher confidence in this area. Students enrolled in pharmacy programs face reading challenges because most materials for drugs and clinical studies exist only in English. The speaking proficiency scores of students suggest a major curriculum issue because it demonstrates inadequate teaching of verbal communication capabilities needed to work with patients and health care professionals.

Speaking proficiency levels of practicing pharmacists remain low because it becomes critical to deliver proper patient counseling and practice between professionals. Successful pharmacist-patient discussions need excellent verbal communication abilities because pharmacists must explain treatments and details about doses while solving patient questions. Depleted English-speaking confidence among students will create difficulties during pharmacy practice which results in communication problems and drug errors. The study identifies a necessity for pharmacy educational institutions to implement hands-on verbal exercise programs that incorporate role-playing patient consultations and public speaking practices to develop student communication abilities.

4.7.2. Pharmacy-Related English Skills

The research shows English proficiency stands foremost when students tackle academic and professional pharmacy tasks especially through scientific literature reading (M = 3.75, SD = 1.12) and writing research papers (M = 3.60, SD = 1.15). The study demonstrates how essential

it is to master English language abilities when conducting pharmaceutical research while pursuing academic writing and implementing evidence-based practice.

Students enrolled in pharmacy programs need to excel at scientific literature reading since they will analyze research findings together with drug efficacy studies to understand professional clinical guidelines. Student evaluations indicate strong comprehension abilities since people recognize reading skills as necessary factors for academic achievement and career growth. Pharmacists with poor scientific literature reading abilities find it difficult to maintain awareness about new drugs and healthcare guidelines which leads to decreased patient care quality.

Students must demonstrate writing research papers as a fundamental competency requirement for their pharmacy education studies. Scientific documentation of case studies and research publishing with academic contributions form necessary requirements for students through written reports and academic publications. Students demonstrate a strong awareness of scientific communication effectiveness through their relatively positive performance in writing abilities. Researches within pharmacy education must receive dedicated training about academic writing principles and manuscript preparation and technical documentation because students face difficulties with research paper organization and the use of proper academic language and source citation rules.

Students ranked the abilities to interact with patients ($M = 3.55$, $SD = 1.10$) and take part in professional discussions ($M = 3.50$, $SD = 1.08$) as key skills. Managers who excel at communicating within pharmacy patient interactions and interdisciplinary teams ensure proper medication adherence, reduce drug interaction risks and deliver superior patient results. The study data seem to indicate that students do not feel sound enough concerning their proficiency in these domains. Academic curricula fail to offer enough chances for actual practical speaking experience which results in student confidence doubt. The educational program must include patient counseling simulations and interdisciplinary communication exercises along with case-based learning for developing pharmacy students' application of English language skills in their professional roles.

4.7.3. No Significant Improvement Across Study Years

English proficiency shows no significant improvement during the Pharm-D educational journey according to the main research findings. Reading, writing, speaking, and listening proficiency all demonstrate similar statistical findings throughout different study years as per the ANOVA results which indicates students do not develop meaningful language abilities during their program duration. Researchers have identified that insufficient English learning progress in pharmacy curriculum violates the initial expectation for effective teaching methods.

English training in Pharm-D programs shows no sign of progression or appropriate reinforces during the entire study period. Studying English through the cycle of pharmacy education should result in successive growth of language ability in writing and speaking when students tackle progressively challenging academic material and professional communications tasks. Study findings indicate that existing English training for the Pharm-D courses seems to remain static and generalized with minimal application within the pharmacy field.

- The failure of students to improve English language proficiency arises from multiple causes.
- First-year pharmacy students typically take English language training from their educational programs yet these institutions do not sustain such development moving into higher academic levels. Pharmacy students do not receive sufficient chances to advance their English abilities after beginning specialized pharmacy courses throughout their academic years.
- The standard approach in English education primarily delivers abstract grammar instruction despite missing essential professional skills which workers need for their careers. Standard English language courses do not provide sufficient training for pharmacy students in medical documentation procedures or prescription interpretation and patient counseling methods which they will need for practice.
- Students receive no proper training for developing speaking abilities in their academic studies but they can master reading and writing through coursework requirements. The pharmacy branch academic courses mix Urdu and Pashto native languages with English thus providing students with less time to practice standard academic English.
- Native language usage by students prevents increased English contact during academic and social activities because students simply refrain from speaking English. Students who

do not experience genuine language usage in their everyday lives face difficulties achieving professional fluency in English.

4.7.4. Implications and Recommendations

- Pharmacy curricula need to establish a systematic and advanced approach to teach English as a way to resolve these challenges. Key recommendations include:
- English education should span throughout all study years by incorporating specialized subject content and case-based activities with professional communication skills in the education plan.
- Pharmacy programs need to deliver English for Specific Purposes (ESP) courses that specialize in pharmaceutical communication by teaching scientific writing as well as patient counseling skills and clinical exchange techniques alongside regulatory documentation procedures.
- Pharmacy students should participate in interactive learning methods through role-playing and simulations and interdisciplinary dialogues and patient care exercises which develop real-world communication capability.
- The assessment process should include regular testing to check student language development and individual feedback for improvement information.

4.8 Teacher Questionnaire Analysis

4.8.1 Introduction

This study included the views of ten instructors of the English Specific Purposes (ESP) of Pharm-D programs in the Malakand Division besides the student ones. These educators have offered professional assessment of the English language skills of their students and had measured the significance of diverse pharmacy-related communicative activities. Their answers provide an interesting perspective in which it is possible to triangulate the findings and a confirmation of the needs that are perceived by students versus those that were experienced by instructors.

4.8.2 Teacher-Perceived English Proficiency of Students

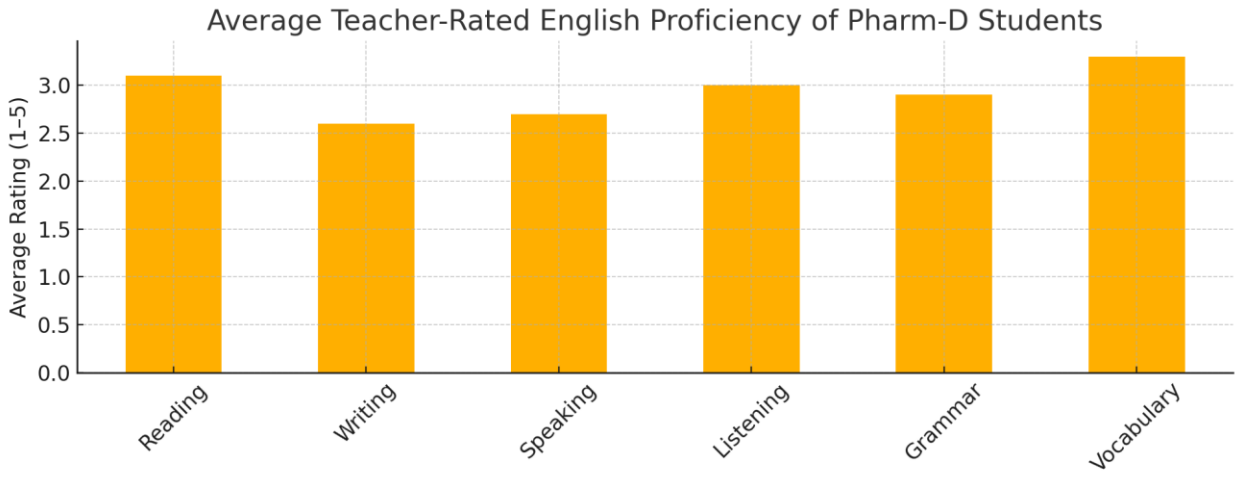
Table 4.7 and Figure 4.1 review the levels considered by the teachers as those of student proficiency in six basic skills of language. A high rating was reached in the skill Reading (M = 3.1), Listening (M = 3.0) and Vocabulary (M = 3.3). The rating of Writing and Speaking is

noteworthy, and it gives the lowest mark M = 2.6, with Speaking taking a little better mark, M = 2.7, indicating that students have a harder time with productive skills than receptive ones.

Table 4.5: Average Teacher Ratings of Student Proficiency (1 = Very Weak, 5 = Very Good)

Skill	Mean Rating
Reading	3.1
Writing	2.6
Speaking	2.7
Listening	3.0
Grammar	2.9
Vocabulary	3.3

Figure 4.1: Teacher-Rated Average Student Proficiency



4.8.3 Importance of English in Pharmacy-Related Tasks

Teachers also participated in the evaluation of the necessity of English to perform certain academic and professional issues related to the area of work of pharmacy. The highest scores are represented in Table 4.8 and Figure 4.2 which showed continuous high scores with most items scoring average of more than 4.0. The most urgent jobs have been found as:

- Reading Scientific Reading (M = 4.5)
- Participating/contributing to Clinical Research (M = 4.4)

M 4.3 each: Professional Discussions and Case Reports

This strengthens the claim that sophisticated academic reading, formal communication is the mainstay of pharmacy performance and much needs to be done to improve it by means of ESP instruction.

Table 4.6: Importance of English in Pharmacy Tasks (1 = Little Important, 5 = Highly Important)

Activity	Mean Rating
Reading Scientific Literature	4.5
Writing Research Papers	4.0
Communicating with Patients	3.8
Interpreting Prescriptions and Labels	4.1
Participating in Professional Discussions	4.3
Writing Case Reports and Presentations	4.3
Attending Workshops and Seminars	4.2
Conducting/Contributing to Clinical Research	4.4

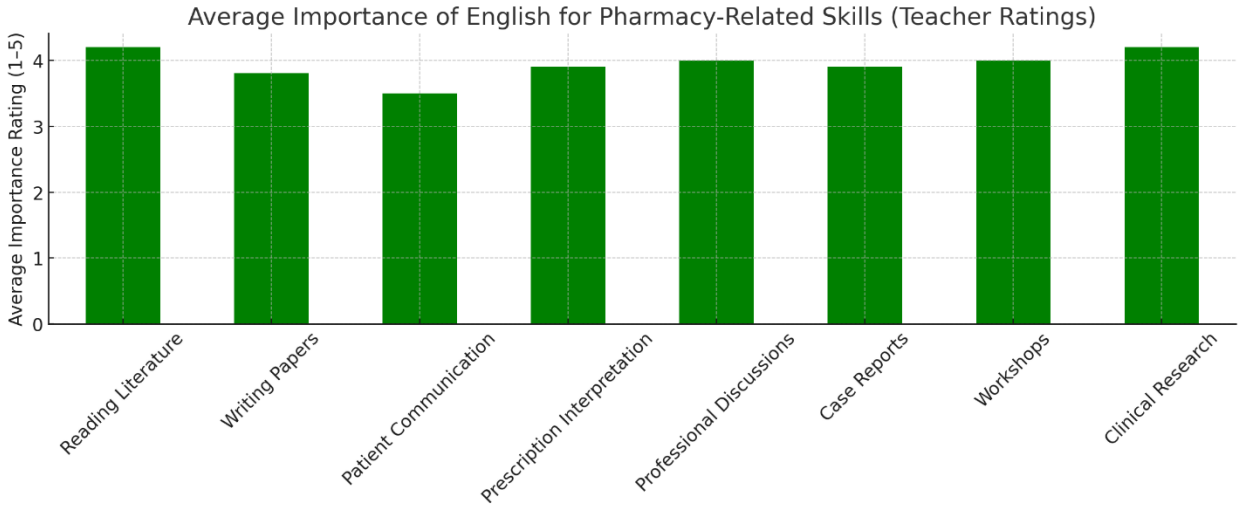


Figure 4.2: Importance of English for Pharmacy-Related Skills (Teacher Perspective)

4.8.4 Curriculum Evaluation and Pedagogical Approaches

There was varied response on the teachers regarding current ESP syllabus. The majority of the respondents admitted that it addresses basic skills fairly well but does not go deep into scientific writing, research communication, as well as out discourse. Various teachers indicated their use of traditional grammar-translation technique with some of them starting to use task-based instruction and content-based instructions approaches. It is obvious to see that more concrete and skills-based material related to actual conditions in the pharmacy are needed.

4.8.5 Challenges and Suggestions (Thematic Summary)

Challenges Identified by Teachers:

- Poor access to English by the students beyond the classroom
- Lack of proper writing skills especially scientific writing
- Absence of Instructional materials on pharmacy-related training
- Time limitation at the semester to address all the required skills

Suggestions for Improvement:

- Use cases studies; and incorporate role-plays of dealing with patients
- Develop more concentration on the writing of prescriptions, summaries and research abstracts
- Institute professional training of teachers of ESP in terms of pharmaceutical discourse
- Make the syllabus more aligned to emerging trends in pharmacy (e.g. tele-medicine, digital health-communication)

4.8.6 Interpretation and Implications

The study of teachers supports the shortage of productive skills (writing and speaking) that students reported and points out the need to pay particular attention to communication training on a pharmacy-specific level. The fact that the weakness that is rated by students correlates with that of the teachers makes the decision to revise the ESP curriculum stronger. It is necessary to stress out:

Academic and professional writing development

- Improved spoken interaction in a clinical and research setting
- Combination of genuine contents and simulations
- Helping teachers in specially trained pedagogical training

4.9 Critical Discussion of Teacher Feedback

The presence of teacher views in the research is a critical source of complement to student reports and consequently allows obtaining in-depth insights on the pedagogical reality of

teaching English as a Specific Purposes (ESP) in Pharm-D programs. The ten instructors, working in different institutions within the Malakand Division, have shown three unifying themes, namely, (1) a large skill-performance gap, (2) disengagements between the curriculum and practice, and (3) systematical constraints against the implementation of ESP. These results have very serious implications on curriculum reform and ESP pedagogy.

4.9.1 Skill-Performance Gaps: Receptive vQs. Productive Skills

One feature that remains relatively consistent in the teacher responses is the discrepancy that exists within receptive and productive language skills of students. Reading (M = 3.1) and vocabulary (M = 3.3) were regarded higher than speaking (M = 2.7) and writing (M = 2.6) by teachers. This concurs with the student data which was discussed above wherein students also indicated that they were more confident when it comes to comprehending texts rather than generating language.

Such division can be interpreted as a structural inclination of conventional ESL instructions in Pakistan that tend to excessively focus on grammar and translation over investment in fluency in speaking, writing in a scientific style, and interactive competencies all of which hold significance in the global pharma industry. Unlike the standard generic English paradigms that teacher should not copy, ESP is required to focus on professional communicative competence which fits the field of activity (Basturkmen, 2010). In this sense, it is possible to note that the low level of results in productive skills displays miscorrespondence between the curriculum focus and professional demands.

4.9.2 Curriculum Relevance and Pedagogical Mismatch

Answers of teachers reveal the actual problem because these teachers understand the necessity of such tasks as reading scientific literature (M = 4.5) and participation in clinical research (M = 4.4), but they claim that the current syllabus does not support these activities well enough. To give an illustration, among other respondents, scientific and medical writing is only a subject of moderate coverage, although it is ranked one of the most fundamental skills in Pharm-D students.

There is a disconnect here that can indicate a gap between theory and practice during which curricular frameworks may list these results nominally and not connect them to active classroom

tasks. Moreover, there is the recurrent employing of grammar-translation practices, which are still against what is currently considered best practices in ESP; task-based learning, content integration and bringing true communication situations (Hyland, 2006; Hutchinson & Waters, 1987). The continuation of old methodologies can be explained both by the absence of institutional support in the professional development and stagnation in teaching practice.

4.9.3 Systemic Barriers and Institutional Inertia

There is another dimension of worry connected to structural constraints: teachers mentioned the shortage of time, a lack of pharmacy-specific resources, and a lack of continuing education regarding ESP pedagogy. They are not the only issues because these are rather systemic problems observed in numerous Pakistani institutions, as language programs are lowly funded and do not have connections with disciplinary departments (Rahman, 2002). Many teachers will be left to make their own ESP teaching without professional expertise or top-down support without specific professional development, which ultimately will affect the quality of instructions.

The lack of coordination between English educators and the subject professionals in the pharmacy also detaches the ESP classroom to the professional sphere that it is expected to support. This matches the arguments of Basturkmen (2010) that ESP teaching almost always becomes something of an add on to domain teaching instead of being a natural part. Any sustainable ESP model should be accompanied not only by revised syllabi, but also cross-disciplinary curriculum models, institutional investing, and out-turns-based evaluation systems into the pharmacy as a discipline.

4.9.4 Triangulation with Student Data: Converging Narratives

Triangulation of student and teacher data is one of the major findings of this mixed-perspective approach that can be seen, as converging accounts were found. The speaking and writing skills were given as areas of weakness among the two groups, and they both described the necessity to read professional literature and engage in the clinical or academic discussion in great scope. This congruence supports the credibility of the results and also gives a sound empirical foundation to the reshaping of syllabus. It also highlights how the curriculum should be changed with regard to teaching generic English, and not according to high-stakes, discipline-based model of communication, which corresponds with what pharmacy professionals are expected to do.

CONCLUSION AND RECOMMENDATIONS

This research has sought to explore the English language needs of Pharm-D students in the Malakand Division and to assess how well current English courses meet those needs. Through a combination of needs analysis and the application of English for Specific Purposes (ESP) frameworks, this study has identified several critical gaps in the English proficiency levels of Pharm-D students. Specifically, the research highlights deficiencies in speaking and listening skills that hinder students' preparedness for professional roles in the pharmacy field. Given that English plays a vital role in the pharmaceutical industry, especially in reading scientific literature, writing research papers, and communicating with patients, the findings point to the urgent need for a revision of the current English curriculum to address these issues.

Key Findings and Analysis

1. English Proficiency Levels: The survey data, presented in Chapter 4, revealed that Pharm-D students rated their English proficiency across various skills with a notable emphasis on reading and writing. Specifically, the mean score for reading (M = 3.12) and writing (M = 3.06) was higher than that for speaking (M = 2.89) and listening (M = 2.95). These results suggest that while students are reasonably comfortable with written forms of communication, they face significant challenges in oral communication, which is critical in their professional roles. The wide variability in speaking proficiency (SD = 1.21) underscores the diverse language needs within the student body, where some students are highly proficient, while others struggle to communicate effectively.

   The grammar and vocabulary proficiency also showed moderate ratings (M = 3.01 and M = 3.10, respectively), pointing to a need for better integration of professional terminology into the curriculum. Despite students' reasonable grammar skills, they still find it difficult to engage with specialized pharmaceutical vocabulary and understand technical texts. This highlights a gap in the curriculum, which is supposed to prepare students for the technical demands of the pharmaceutical profession.

2. Importance of English for Pharmacy-Related Tasks: In the Discussion Chapter, students strongly emphasized the importance of English for professional tasks such as reading

scientific literature (M = 3.75), writing research papers (M = 3.60), and communicating with patients (M = 3.55). These findings are consistent with the theoretical framework of ESP, where the language used in a specific professional context (in this case, pharmacy) is tailored to meet the needs of the students. The high rating for reading scientific literature suggests that students recognize the crucial role that English plays in accessing current pharmaceutical knowledge and research. However, students also identified challenges in comprehending complex medical texts, indicating the need for curriculum adjustments that focus more on specialized academic English and technical vocabulary relevant to their field.

3. Challenges in Speaking and Listening: The findings from the Discussion and Analysis Chapters reveal that speaking and listening were identified as significant barriers. Students ranked their speaking skills as the lowest (M = 2.89) and expressed a lack of opportunities to practice spoken English in class. This is especially concerning because effective patient communication and interdisciplinary collaboration are core components of pharmacy practice. The listening skills (M = 2.95), while slightly higher, still indicate that many students struggle to understand spoken English, particularly in clinical settings where accurate comprehension of medical instructions and patient needs is essential. These gaps in oral communication skills must be addressed to ensure that students are prepared for real-world interactions in their future careers.

   Students attributed these issues to the limited practice opportunities in class, where most communication is passive and limited to reading or writing exercises. The standard deviation (1.21) further underscores that the diversity in student proficiency in speaking is considerable, indicating that while some students might excel in oral communication, others are significantly less confident and capable.

4. Curriculum Alignment with Professional Needs: The current English curriculum, as analyzed in the study, focuses largely on grammar and general English proficiency, rather than on the specific language skills needed in pharmacy. While the importance of grammar and vocabulary cannot be overstated, it is clear from the Research Methodology Chapter and Data Analysis that a more targeted approach is necessary. Students have expressed a clear preference for courses that incorporate practical English relevant to

their future roles as pharmacists. These include tasks such as writing clinical reports, interacting with patients, and discussing pharmaceutical issues in professional settings.

The lack of focus on real-life language application suggests a mismatch between the academic goals of the course and the actual demands of the pharmacy profession. Although the students acknowledge the importance of reading scientific literature and writing research papers, they also recognize that these skills need to be paired with communication skills in English to truly prepare them for their professional roles.

5. Student Motivation and Engagement: As indicated in the Discussion Chapter, students' motivation to improve their English proficiency is directly tied to their understanding of its relevance to their future careers. The study suggests that when students perceive a direct link between English proficiency and their professional success, they are more likely to be engaged and motivated. The research highlights that English courses should be designed to be more dynamic and interactive, with a focus on real-world tasks. For example, incorporating patient role-playing scenarios and interdisciplinary communication exercises could significantly enhance students' oral proficiency and overall engagement with the course material.

Recommendations for Curriculum Reformation

Based on the findings of this study, the following recommendations are made for the development of a more effective English curriculum for Pharm-D students in the Malakand Division:

1. Incorporate More Interactive and Practical Communication: The curriculum should be revised to place greater emphasis on speaking and listening skills. Interactive methods such as role-playing, patient counseling simulations, group discussions, and case study presentations should be integrated to ensure that students gain the confidence to use English in real-world pharmaceutical contexts.
2. Emphasize Specialized Pharmaceutical Vocabulary: The curriculum should include more pharmacy-specific content, focusing on technical language, medical terminology, and pharmaceutical jargon. This will help students become familiar with the vocabulary they

will encounter in scientific literature, research papers, clinical guidelines, and patient interactions. Authentic materials, such as scientific journals and clinical case studies, should be incorporated to reflect the actual language used in the pharmaceutical industry.

3. Use Authentic Materials and Contextualized Learning: The introduction of authentic materials that closely resemble the texts students will encounter in their professional careers is essential. This includes using research articles, clinical reports, prescription labels, and patient information leaflets in classroom activities. These materials not only help improve reading comprehension but also provide the opportunity to practice technical writing and other forms of professional communication.
4. Regular Curriculum Updates Based on Ongoing Needs Analysis: The pharmaceutical industry is continuously evolving, which makes it essential for the curriculum to stay aligned with current industry trends. The findings suggest that regular needs analysis should be conducted to ensure that the curriculum remains relevant to the students' academic and professional needs. By integrating feedback from students, industry professionals, and academic advisors, the curriculum can be adapted to meet the emerging needs of the pharmaceutical field.
5. Teacher Training and Professional Development: Instructors play a vital role in ensuring the success of the curriculum changes. Teachers need to be equipped with the skills to deliver dynamic, learner-centered lessons that focus on both language skills and subject-specific content. Ongoing professional development in both language teaching and the pharmaceutical field will enable educators to stay up-to-date with the latest trends and best practices in ESP instruction.

Finally, this study emphasizes the critical role of English language proficiency in the success of Pharm-D students, both academically and professionally. The current English courses, while providing a foundation in reading and writing, fail to adequately address the practical communication skills required for effective pharmacy practice. By redesigning the curriculum to focus on oral communication skills, pharmacy-specific vocabulary, and interactive learning experiences, institutions can better prepare students for the linguistic demands of their future careers.

Moreover, continuous needs analysis and curriculum revisions will ensure that the English courses remain relevant and responsive to the evolving demands of the pharmaceutical industry. Through these changes, Pharm-D students will be empowered to become competent, confident, and globally-minded pharmaceutical professionals, equipped with the English language skills necessary to thrive in an interconnected, globalized healthcare environment.

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APPENDIX (A)

Questionnaire: Analyzing the Target Needs of Pharm-D Students in English Courses

Introduction:

Dear Participant,

Thank you for participating in this survey. The purpose of this questionnaire is to gather information about the English language needs of Pharm-D students and the effectiveness of current English courses offered at your institution. Your responses will help improve the English curriculum to better align with the needs of students like yourself. Please answer all questions honestly. Your responses will be kept confidential, and you have the right to withdraw from the survey at any time.

Instructions:

- Please answer all questions to the best of your ability.
- For questions that require you to rate something, please circle or select the number that best represents your opinion.
- If you have any questions or need clarification, please contact the researcher.

Section A: Personal Information

1. **Age:**
    - ☐ Under 20
    - ☐ 20-25
    - ☐ 26-30
    - ☐ Over 30
2. **Gender:**
    - ☐ Male
    - ☐ Female
    - ☐ Prefer not to say
3. **Educational Background:**
    - ☐ Completed Intermediate (12th Grade)
    - ☐ Completed Bachelor's (Other than Pharm-D)
    - ☐ Currently enrolled in Pharm-D
4. **Year of Study in Pharm-D Program:**

- ☐ Year 1
- ☐ Year 2
- ☐ Year 3
- ☐ Year 4
- ☐ Year 5

5. **How long have you been studying English?**
   - ☐ 1-5 years
   - ☐ 6-10 years
   - ☐ 11-15 years
   - ☐ More than 15 years

Section B: Current English Proficiency

Please rate your proficiency in the following English language skills using the scale provided.

Skill	Very Weak (1)	Weak (2)	Average (3)	Good (4)	Very Good (5)
Reading	[ ]	[ ]	[ ]	[ ]	[ ]
Writing	[ ]	[ ]	[ ]	[ ]	[ ]
Speaking	[ ]	[ ]	[ ]	[ ]	[ ]
Listening	[ ]	[ ]	[ ]	[ ]	[ ]
Grammar	[ ]	[ ]	[ ]	[ ]	[ ]
Vocabulary	[ ]	[ ]	[ ]	[ ]	[ ]

Section C: Importance of Pharmacy-Related Skills Requiring English Proficiency

Please indicate how important each of the following pharmacy-related activities is in your education and future career, using the scale provided.

Pharmacy-Related Activity	Little Important (1)	Somewhat Important (2)	Important (3)	Very Important (4)	Highly Important (5)
Reading and understanding scientific literature	[ ]	[ ]	[ ]	[ ]	[ ]
Writing research papers	[ ]	[ ]	[ ]	[ ]	[ ]
Communicating with patients	[ ]	[ ]	[ ]	[ ]	[ ]
Participating in professional discussions	[ ]	[ ]	[ ]	[ ]	[ ]

Pharmacy-Related Activity	Little Important (1)	Somewhat Important (2)	Important (3)	Very Important (4)	Highly Important (5)
Interpreting prescription labels and medical instructions	[ ]	[ ]	[ ]	[ ]	[ ]
Writing and presenting case studies	[ ]	[ ]	[ ]	[ ]	[ ]
Engaging in interdisciplinary teamwork	[ ]	[ ]	[ ]	[ ]	[ ]
Attending and understanding professional seminars/workshops	[ ]	[ ]	[ ]	[ ]	[ ]
Conducting and participating in clinical research	[ ]	[ ]	[ ]	[ ]	[ ]

Section D: Topics of Interest in English Courses

Please indicate your interest in the following topics that could be included in your English language courses. Use the scale provided to rate each topic.

Topic	Not Helpful (1)	Somewhat Helpful (2)	Important and Interesting (3)
English for scientific writing	[ ]	[ ]	[ ]
Medical terminology	[ ]	[ ]	[ ]
Communication with patients	[ ]	[ ]	[ ]
English for public speaking and presentations	[ ]	[ ]	[ ]
Technical writing in pharmacy	[ ]	[ ]	[ ]
Reading and interpreting scientific articles	[ ]	[ ]	[ ]
Understanding and participating in medical debates	[ ]	[ ]	[ ]
Case study writing and presentation	[ ]	[ ]	[ ]
Cross-cultural communication in pharmacy practice	[ ]	[ ]	[ ]
English for clinical trials and research	[ ]	[ ]	[ ]

Section E: Additional Comments

25. **Do you have any suggestions or comments about the current English language courses offered in your Pharm-D program?**

(Please write your response in the space provided.)

Thank you for your participation!

Closing Statement:

Please return the completed questionnaire to the researcher or submit it online using the provided link. Your responses will contribute significantly to the enhancement of English language education for Pharm-D students. Your input is greatly appreciated.

APPENDIX (B)

Teacher Questionnaire: Analyzing the English Language Needs of Pharm-D Students

Dear Teacher,

Thank you for taking the time to participate in this survey. This questionnaire is designed to collect your valuable insights about the English language needs of Pharm-D students in the Malakand Division and to assess how effectively current English courses meet those needs. Your responses will play a critical role in improving the ESP curriculum. All responses will be kept strictly confidential.

Section A: Personal & Professional Information

1. Gender: ☐ Male ☐ Female ☐ Prefer not to say

2. Age Group: ☐ 25–30 ☐ 31–40 ☐ 41–50 ☐ 51+

3. Highest Qualification: ☐ MA English ☐ MPhil English ☐ PhD English ☐ Other: _____

4. Experience Teaching ESP to Pharm-D Students: ☐ <2 years ☐ 2–5 years ☐ 6–10 years ☐ >10 years

5. Have you received ESP training? ☐ Yes ☐ No If yes, specify: _____

Section B: Perceptions of Student Proficiency

Please rate students' average proficiency in the following areas:

Skill	Very Weak (1)	Weak (2)	Average (3)	Good (4)	Very Good (5)
Reading	☐	☐	☐	☐	☐
Writing	☐	☐	☐	☐	☐
Speaking	☐	☐	☐	☐	☐
Listening	☐	☐	☐	☐	☐
Grammar	☐	☐	☐	☐	☐
Vocabulary	☐	☐	☐	☐	☐

Section C: Importance of English for Pharmacy-Related Skills

Please rate the importance of the following skills:

Activity	Little Important (1)	Somewhat Important (2)	Important (3)	Very Important (4)	Highly Important (5)
Reading scientific literature	☐	☐	☐	☐	☐
Writing research papers	☐	☐	☐	☐	☐
Communicating with patients	☐	☐	☐	☐	☐
Interpreting prescriptions and labels	☐	☐	☐	☐	☐
Participating in professional discussions	☐	☐	☐	☐	☐
Writing case reports and presentations	☐	☐	☐	☐	☐
Attending workshops/seminars	☐	☐	☐	☐	☐
Conducting or contributing to clinical research	☐	☐	☐	☐	☐

Section D: Current Curriculum Evaluation

1. How relevant is the current ESP syllabus?
☐ Not at all ☐ Slightly ☐ Moderately ☐ Very ☐ Extremely

2. Teaching approaches used (check all that apply):

☐ Grammar-Translation ☐ Communicative Approach ☐ Task-Based Learning ☐ Content-Based Instruction ☐ Other: _____

3. Does the curriculum adequately cover the following?

Component	Not Covered (1)	Somewhat (2)	Adequate (3)	Well Covered (4)	Excellent (5)
Scientific and Medical Writing	☐	☐	☐	☐	☐
Oral Communication in Pharmacy	☐	☐	☐	☐	☐

Reading Comprehension of Journals	☐	☐	☐	☐	☐
Listening Skills (Seminars etc.)	☐	☐	☐	☐	☐

Section E: Suggestions & Observations

1. Major challenges in teaching ESP to Pharm-D students:

_____
_____

2. Suggestions for aligning English instruction with pharmacy needs:

_____
_____

Thank you for your valuable input. Your insights will contribute significantly to improving the English language instruction for Pharm-D students.