# DEVELOPING A NEEDS-INFORMED DESIGN FRAMEWORK FOR ESP MATERIALS IN ATHLETICS COURSES

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## ABSTRACT

The increasing demand for English proficiency in Physical Education has highlighted the need for English for Specific Purposes (ESP) materials that reflect students' academic and professional contexts. However, English instruction in many Physical Education programs continues to rely on general English materials that inadequately support discipline-specific communication in athletics courses. This research aimed to develop a needs-informed design framework for ESP materials in athletics courses by identifying students' target needs and learning needs as the foundation for instructional design. This research employed a Design and Development Research (DDR) approach focusing on the initial phases of needs analysis and instructional design. The participants were 38 fourth-semester students from the Physical Education Study Program at STKIP Muhammadiyah Sungai Penuh, Indonesia, selected purposively from a population of 116 students. Data were collected through questionnaires, semi-structured interviews, and document analysis, and analyzed using descriptive statistics and thematic analysis. The findings revealed that students considered understanding athletics terminology, giving instructional directions during athletics practice, and interpreting international sports references as essential English competencies. The analysis also identified limited technical vocabulary and low confidence in oral communication as the major learning gaps. Furthermore, students expressed strong preferences for contextualized ESP materials, authentic sports resources, multimedia-supported instruction, and performance-based learning activities. Based on these findings, a needs-informed design framework was developed by aligning learning outcomes, instructional content, language functions, learning activities, learning resources, and assessment with students' identified needs. This research contributes a systematic instructional design framework that bridges the gap between needs analysis and ESP materials development for athletics courses. The proposed framework provides practical guidance for lecturers and curriculum developers in designing contextualized ESP materials that better support the academic and professional communication needs of Physical Education students.

**Keywords :** *English For Specific Purposes, Needs Analysis, Instructional Design, ESP Materials, Athletics Courses, Physical Education.*

## INTRODUCTION

English has become an essential medium for academic communication, scientific knowledge exchange, and professional collaboration across various disciplines. In higher education, students are increasingly expected to access international literature, participate in global academic communities, and develop professional competencies that enable them to compete in an interconnected world. These expectations have transformed English from a general academic subject into a discipline-specific competence that supports students' future careers. Consequently, English language instruction in universities should address not only general communicative competence but also the specific linguistic demands associated with students' fields of study.

This shift has strengthened the role of English for Specific Purposes (ESP) in higher education. ESP emphasizes the integration of language learning with learners' academic and professional contexts, ensuring that instructional content reflects authentic communication needs rather than generalized language knowledge (Hutchinson & Waters, 1987; Dudley-Evans & St. John, 1998). Unlike General English, ESP focuses on developing language competencies that enable learners to perform discipline-specific tasks, interpret professional information, and communicate effectively within their respective fields. Therefore, the effectiveness of ESP instruction depends largely on its relevance to learners' target situations and future professional responsibilities.

Within Physical Education programs, English competence has become increasingly important as students are required to engage with international sports literature, understand competition regulations, interpret coaching resources, and access scientific evidence related to sports performance and athlete development. Future Physical Education teachers and coaches are also expected to communicate instructional procedures, explain movement techniques, deliver performance feedback, and participate in professional development activities where English is frequently used. These changing academic and professional demands indicate that English instruction for Physical Education students should be contextualized within sports-related communication rather than relying solely on general language materials.

Despite these growing demands, English instruction in many Indonesian teacher education institutions continues to rely on General English materials that provide limited opportunities for students to develop discipline-specific communication skills. Learning materials commonly emphasize general grammar, everyday vocabulary, and routine conversational expressions with little connection to the communicative situations encountered in Physical Education courses. As a result, students often experience difficulties understanding athletics terminology, interpreting sports science references, explaining movement techniques, and using English confidently during classroom presentations or practical teaching activities. Similar challenges have been reported in previous ESP studies, which indicate that instructional materials frequently fail to reflect learners' actual academic and professional communication needs (Basturkmen, 2010; Nation & Macalister, 2010).

Needs analysis has consistently been recognized as the foundation of effective ESP course design because it provides empirical evidence regarding learners' target needs and learning needs (Hutchinson & Waters, 1987; Long, 2005). Through systematic needs analysis, educators can identify the language competencies required in learners' future professions, determine existing gaps in language proficiency, and understand learners' preferences regarding instructional content and learning activities. Such information enables instructional decisions to be grounded in

authentic educational contexts rather than assumptions about what learners should study. Consequently, needs analysis has become an indispensable stage in designing contextualized ESP curricula and instructional materials.

Previous studies have demonstrated the value of needs analysis in developing ESP instruction across various vocational and higher education settings. Melyati (2024), for example, reported that vocational students required English materials closely aligned with authentic workplace communication, while Melyati and Saswandi (2024) showed that needs-based ESP materials enhanced the relevance of English learning in vocational education. More recently, Melyati (2025) emphasized that contextualized ESP instruction should integrate learners' academic needs with future professional communication. Although these studies provide valuable evidence supporting the importance of needs analysis, they primarily focus on identifying learners' needs or developing instructional materials. Relatively little attention has been devoted to explaining how empirical findings from needs analysis can be systematically translated into instructional design decisions before materials are developed.

This limitation is particularly evident in the context of Physical Education, where research on ESP remains relatively scarce compared with fields such as nursing, engineering, tourism, and hospitality. Existing studies have rarely addressed the English language needs of undergraduate students enrolled in athletics courses, nor have they proposed an instructional framework that connects identified needs with the systematic design of ESP materials. Consequently, lecturers often rely on personal experience or existing textbooks when selecting instructional content, resulting in learning materials that may not adequately support students' academic and professional communication requirements.

To address this gap, the present research aims to develop a needs-informed design framework for ESP materials in athletics courses. Rather than producing instructional materials directly, the study first investigates the English language needs of fourth-semester undergraduate students in the Physical Education Study Program at STKIP Muhammadiyah Sungai Penuh and subsequently translates these findings into a systematic instructional design framework. The proposed framework is expected to provide theoretical and practical guidance for future ESP materials development by aligning learning outcomes, instructional content, language functions, learning activities, and assessment with learners' identified needs. In doing so, the study contributes not only to the growing body of ESP research but also to the development of more contextualized English instruction for undergraduate Physical Education programs.

## Literature Review

### English for Specific Purposes

English for Specific Purposes (ESP) is a learner-centered approach in which the content, methodology, and learning objectives are determined by learners' academic and professional needs rather than by a predetermined language syllabus (Hutchinson & Waters, 1987). This approach recognizes that students from different disciplines require different types of English to perform effectively in their future workplaces and academic environments. Consequently, ESP instruction emphasizes authentic language use, discipline-specific communication, and contextualized learning experiences.

Dudley-Evans and St. John (1998) further explain that ESP is characterized by its responsiveness to learners' target situations. Rather than teaching English as an isolated subject, ESP prepares learners to communicate effectively within their disciplinary communities. Similarly, Basturkmen (2010) argues that ESP should develop learners' ability to participate in

authentic professional discourse instead of merely introducing technical vocabulary. Therefore, the effectiveness of ESP depends on how well instructional content reflects the communicative practices of a particular discipline.

For Physical Education students, ESP should support communication related to sports instruction, coaching, movement analysis, competition regulations, and sports science. English learning should therefore be integrated with athletics-related tasks that prepare students for academic study and professional practice. Such contextualization enables students to perceive English as a practical tool for learning and communication rather than as a separate academic subject.

**Needs Analysis in ESP**

Needs analysis is widely regarded as the foundation of ESP because it provides information about learners' target situations, current language proficiency, and learning expectations (Hutchinson & Waters, 1987). Target needs consist of necessities, lacks, and wants, while learning needs describe the conditions that facilitate successful language learning. Together, these dimensions guide the selection of learning objectives, instructional content, teaching strategies, and assessment.

Long (2005) emphasizes that needs analysis should involve multiple sources of information, including learners, teachers, curriculum documents, and professional stakeholders. This comprehensive approach improves the validity of instructional decisions and ensures that ESP courses address authentic communication requirements. Likewise, Nation and Macalister (2010) argue that needs analysis should not be viewed as a single preliminary activity but as a continuous process informing curriculum design and instructional development.

Previous studies consistently demonstrate the importance of needs analysis in ESP. Melyati (2024) identified that vocational students required contextualized English materials closely related to workplace communication. Building on these findings, Melyati and Saswandi (2024) developed ESP materials that enhanced the relevance of English instruction for vocational learners. However, most previous studies conclude with recommendations for materials development without explaining how needs analysis findings can be systematically transformed into instructional design. This gap provides the rationale for the present research.

**ESP Materials Development**

Materials play a central role in ESP because they provide the medium through which learners acquire language while engaging with disciplinary content. According to Tomlinson (2011), language learning materials should facilitate meaningful learning experiences by exposing students to authentic language use and encouraging active engagement. Effective materials should therefore combine linguistic development with contextual relevance.

Tomlinson (2013) further proposes that ESP materials should be authentic, learner-centered, and cognitively engaging. Authentic texts, real-world tasks, and collaborative learning activities help students understand how English functions in professional contexts. McGrath (2013) similarly argues that materials should be selected and adapted according to learners' needs, learning objectives, and institutional contexts rather than relying exclusively on commercial textbooks. For athletics courses, ESP materials should include sports terminology, coaching communication, competition regulations, sports science texts, and practical instructional tasks. Such materials allow students to develop English proficiency while simultaneously strengthening their disciplinary knowledge. Consequently, the development of ESP materials should be preceded by a comprehensive analysis of learners' academic and professional communication needs.

**Instructional Design**

Instructional design provides a systematic framework for translating learners' needs into organized learning experiences. Branch (2009) explains that instructional design involves analyzing learners, establishing learning objectives, selecting instructional strategies, and designing appropriate assessments. This systematic process ensures that instructional decisions remain aligned with learners' characteristics and expected learning outcomes.

Similarly, Dick, Carey, and Carey (2015) emphasize constructive alignment among learning objectives, instructional activities, learning resources, and assessment. In ESP, such alignment is particularly important because language instruction must correspond directly to the communicative demands of learners' disciplines.

Drawing upon these principles, the present research proposes a needs-informed design framework that integrates findings from needs analysis into instructional planning. Rather than developing learning materials directly, the framework identifies essential design components, including learning outcomes, instructional content, language functions, learning activities, learning resources, and assessment. This framework is expected to provide a systematic foundation for future ESP materials development in athletics courses.

## METHOD

**Research Design**

This research employed a Design and Development Research (DDR) approach adapted from Richey and Klein (2007). DDR is appropriate for studies aiming to develop educational models, instructional frameworks, or design principles through a systematic research process. Unlike product-oriented development studies, the present research focused on the initial stages of development, namely needs analysis and instructional design. The primary outcome of the study was a needs-informed design framework that serves as a conceptual basis for developing ESP materials for athletics courses.

**Research Participants**

The research was conducted in the Physical Education Study Program at STKIP Muhammadiyah Sungai Penuh, Indonesia, during the 2026 academic year. The population consisted of 116 fourth-semester students distributed across three classes. Using purposive sampling, one class comprising 38 students was selected as the research sample. These students were chosen because they had completed General English courses and were enrolled in the Athletics course, enabling them to identify the English language competencies required in their academic learning and future professional practice.

**Research Instruments**

Data were collected using three instruments: a questionnaire, semi-structured interviews, and document analysis. The questionnaire was developed based on the needs analysis framework proposed by Hutchinson and Waters (1987). It consisted of four dimensions: necessities, lacks, wants, and learning needs. Responses were measured using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Semi-structured interviews were conducted with selected students and the athletics lecturer to obtain more detailed information regarding English language use in athletics courses, learning challenges, and expectations for ESP materials.

Document analysis was carried out by reviewing the curriculum, course learning outcomes, semester lesson plans, and athletics course descriptions to identify the communicative competencies expected of Physical Education students.

**Data Collection**

The data collection process consisted of four stages. First, the questionnaire was distributed to all participants to identify their target needs and learning needs. Second, interviews were conducted with representative students and the athletics lecturer to clarify and enrich the questionnaire findings. Third, relevant curriculum documents were analyzed to ensure consistency between students' needs and institutional learning outcomes. Finally, all data were compiled and organized for analysis.

**Data Analysis**

Quantitative data obtained from the questionnaire were analyzed using descriptive statistics, including mean scores and frequency distributions. The mean scores were interpreted using the following criteria: 4.21–5.00 = Very High; 3.41–4.20 = High; 2.61–3.40 = Moderate; 1.81–2.60 = Low; and 1.00–1.80 = Very Low.

Qualitative data obtained from interviews and document analysis were analyzed thematically. The interview transcripts were coded and categorized to identify recurring themes related to students' English language needs, preferred learning experiences, and instructional expectations. The qualitative findings were then used to support and explain the quantitative results.

Finally, the findings from all data sources were triangulated to develop a needs-informed design framework. The framework translates students' identified needs into instructional design components, including learning outcomes, instructional content, language functions, learning activities, learning resources, and assessment strategies. These components are intended to guide the future development of ESP materials for athletics courses.

## RESULT AND DISCUSSION

### Participants' Characteristics

This study involved 38 fourth-semester students enrolled in the Physical Education Study Program at STKIP Muhammadiyah Sungai Penuh. The participants were purposively selected from one of three classes because they had completed General English courses and were taking the Athletics course during the data collection period. Their academic background enabled them to provide relevant information regarding the English language competencies required in athletics learning.

**Table 1. Participants' Demographic Characteristics**

| Variable | Category | Frequency | Percentage (%) |
|---|---|---|---|
| Gender | Male | 25 | 65.8 |
| | Female | 13 | 34.2 |
| Semester | Fourth Semester | 38 | 100 |
| Study Program | Physical Education | 38 | 100 |

The demographic profile indicates that all respondents shared similar academic experiences, ensuring that the identified needs accurately represented the expectations of students enrolled in the Athletics course.

**Students' Target Needs**

Target needs were analyzed based on Hutchinson and Waters' (1987) framework, which categorizes learners' needs into necessities, lacks, and wants. The results indicate that students require English not only for academic purposes but also for future professional responsibilities as Physical Education teachers, coaches, and sports instructors.

**Table 2. Students' Target Needs in Athletics Courses**

| Dimension | Item | Mean | Category |
|---|---|---|---|
| Necessities | Understanding athletics terminology | 4.68 | Very High |
| | Giving instructions during athletics practice | 4.61 | Very High |
| | Understanding international athletics rules and regulations | 4.54 | Very High |
| | Reading sports science textbooks and journal articles | 4.39 | High |
| | Explaining athletics techniques and movements in English | 4.43 | High |
| | Communicating with students and athletes during training | 4.35 | High |
| | Understanding English coaching videos | 4.28 | High |
| | Delivering presentations on athletics topics | 4.18 | High |
| Lacks | Limited athletics-related vocabulary | 4.45 | High |
| | Difficulty understanding authentic English texts | 4.31 | High |
| | Limited confidence in speaking English | 4.37 | High |
| | Difficulty explaining sports concepts in English | 4.29 | High |
| | Difficulty understanding spoken English in instructional videos | 4.18 | High |
| | Limited experience using English in sports communication | 4.12 | High |
| Wants | ESP materials specifically designed for athletics courses | 4.82 | Very High |
| | Learning through authentic sports videos | 4.71 | Very High |
| | More speaking practice in coaching and teaching situations | 4.63 | Very High |
| | Learning technical vocabulary through practical activities | 4.58 | Very High |
| | Learning through demonstrations and simulations | 4.56 | Very High |
| | Digital learning materials integrated with multimedia resources | 4.47 | High |
| | Reading authentic sports science articles | 4.41 | High |

The findings reveal that understanding athletics terminology (M = 4.68) and giving instructions during athletics practice (M = 4.61) were perceived as the most essential English competencies. These findings suggest that students view English as a practical communication tool required for instructional activities, coaching, and professional interaction rather than merely as an academic subject. The high ratings for understanding competition regulations and reading

sports science references further indicate the importance of accessing international resources to support academic learning and professional development.

Regarding students' lacks, limited athletics-related vocabulary (M = 4.45) and lack of confidence in speaking English (M = 4.37) emerged as the major challenges. Students also experienced difficulties interpreting authentic sports texts and explaining athletics concepts in English. These findings indicate that the current English instruction has not sufficiently addressed the communicative demands encountered in athletics education.

Students' wants showed the highest mean scores among all dimensions. The strongest expectation was the development of ESP materials specifically designed for athletics courses (M = 4.82), followed by the use of authentic sports videos (M = 4.71) and speaking activities based on coaching situations (M = 4.63). These findings demonstrate that students prefer contextualized learning experiences integrating English language learning with authentic sports practices. This result supports Tomlinson (2013), who emphasizes that effective ESP materials should be authentic, meaningful, and closely connected to learners' disciplinary contexts.

**Students' Learning Needs**

Learning needs describe students' preferences regarding instructional content, learning activities, resources, and assessment. The results indicate that students expect English learning to be integrated with practical athletics activities rather than delivered through traditional grammar-oriented instruction.

**Table 3. Students' Learning Needs**

| Aspect | Findings |
|---|---|
| Priority language skills | Speaking, Reading, Listening, Writing |
| Preferred topics | Athletics terminology, track and field events, coaching communication, officiating, sports nutrition, injury prevention |
| Preferred learning activities | Demonstration, role play, discussion, project-based learning, video analysis, microteaching |
| Preferred learning resources | E-module, instructional videos, World Athletics regulations, sports science journal articles |
| Preferred assessment | Oral presentation, teaching demonstration, project work, performance assessment |

findings indicate that speaking was identified as the highest priority language skill because students frequently perform instructional communication during practical teaching, coaching, and demonstrations. Reading was also considered important since students increasingly rely on English-language textbooks, journal articles, and international athletics regulations. Listening and writing were viewed as complementary skills that support both academic learning and professional communication.

Students strongly preferred contextual learning through demonstrations, simulations, and project-based activities. These instructional approaches enable learners to practice English while simultaneously developing pedagogical and professional competencies. Such preferences align with the learner-centered principles of ESP, where language learning is embedded within authentic disciplinary tasks rather than separated from students' field of study.

**Developing a Needs-Informed Design Framework**

The findings from the needs analysis served as the empirical foundation for developing a needs-informed design framework. Instead of directly producing instructional materials, this research translates learners' identified needs into instructional design decisions that can guide future ESP materials development.

**Table 4. Proposed Needs-Informed Design Framework**

| Needs Analysis Findings | Design Components |
|---|---|
| Students require athletics terminology | Vocabulary section in every unit |
| Students need coaching communication | Speaking tasks based on coaching scenarios |
| Students require authentic reading materials | Sports science articles and World Athletics regulations |
| Students prefer contextual learning | Demonstrations, simulations, and project-based learning |
| Students prefer multimedia resources | QR-code linked instructional videos and digital resources |
| Students prefer authentic assessment | Performance-based assessment using analytic rubrics |

The proposed framework demonstrates that instructional decisions should originate from learners' identified needs. Learning outcomes, instructional topics, language functions, learning activities, learning resources, and assessment strategies should therefore be systematically derived from empirical evidence rather than selected arbitrarily. By establishing this alignment, the framework provides a practical foundation for developing ESP materials that are pedagogically coherent and contextually relevant to athletics education.

Compared with previous ESP studies that primarily reported learners' needs or evaluated completed instructional materials, this research contributes a structured framework that connects needs analysis with instructional design. The framework thus serves as a conceptual bridge between needs identification and future materials development, providing lecturers and curriculum developers with clear guidance for designing ESP materials that reflect the communicative demands of undergraduate Physical Education students.

## CONCLUSION

This research developed a needs-informed design framework for English for Specific Purposes (ESP) materials in athletics courses based on the English language needs of fourth-semester students in the Physical Education Study Program at STKIP Muhammadiyah Sungai Penuh. The findings revealed that students require English primarily for understanding athletics terminology, interpreting international sports references, delivering instructional communication, and supporting future professional responsibilities as Physical Education teachers and coaches. The needs analysis also identified significant gaps in students' technical vocabulary and oral communication skills, while highlighting strong preferences for authentic learning materials, practical learning activities, multimedia resources, and performance-based assessment. These findings demonstrate that English instruction for Physical Education students should be contextualized within authentic athletics settings rather than relying on general English materials.

The main contribution of this research is the development of a needs-informed design framework that systematically translates students' target needs and learning needs into instructional design components, including learning outcomes, content selection, language functions, learning activities, learning resources, and assessment strategies. The framework provides a theoretical and practical foundation for developing contextualized ESP materials that are closely aligned with the academic and professional demands of athletics courses. Future research should continue this work by developing instructional materials based on the proposed framework, validating the materials through expert review, and evaluating their effectiveness in improving students' English proficiency and professional communication skills within Physical Education programs.

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