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Specialized Language Needs for Health Entrepreneurship in Algerian Higher Education: Speech-Language Pathology Training as a Case Model

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ABSTRACT: *Entrepreneurship has become one of the recent orientations adopted by higher education institutions in Algeria as part of their efforts to encourage innovation, promote an entrepreneurial culture, support start-ups, and transform scientific research outputs into innovative economic projects. This article analyzes the specialized language needs associated with entrepreneurship in the health sector, using speech-language pathology training as an applied case model. The relevance of this model lies in the interdisciplinary nature of speech-language pathology, which brings together linguistics, medicine, neuropsychology, cognitive neuroscience, education, and therapeutic communication. Methodologically, the article adopts a theoretical-analytical approach based on specialized-language and needs-analysis literature. Speech-language pathology students therefore need more than mastery of scientific terminology. They require academic, professional, and entrepreneurial language competence that enables them to read scientific literature, understand specialized terminology, prepare project presentations, describe health services, and communicate within academic, professional, and entrepreneurial environments. The article also addresses these needs in light of multilingualism in Algeria as an integrative dimension that intersects with academic, terminological, professional-communicative, and entrepreneurial needs. It argues that specialized languages, including academic and specialized English as an important resource in scientific research and innovation, constitute a bridge between academic knowledge, professional practice, and entrepreneurial initiative in the health sector.*

KEYWORDS: Specialized languages; ESP; FOS; health entrepreneurship; language needs analysis; multilingualism in Algeria; speech-language pathology training.

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1. Introduction

Specialized languages constitute one of the key foundations for developing university training programs because of their role in preparing students for integration into specialized academic and professional environments. Learning these languages no longer concerns the development of general language competence only; it also involves identifying learners' actual language needs so that training content can be aligned with the requirements of professional practice and the transformations taking place in the labor market.

Language needs analysis has become increasingly important in light of the growing orientation of higher education institutions toward fostering innovation, promoting entrepreneurship, and encouraging the creation of start-ups. This orientation requires students to possess specialized language competences that enable them to communicate professionally, present ideas and projects, prepare specialized documents, and interact with different actors in the professional environment.

The growing presence of English in university training programs reflects its role in scientific research and international academic communication. At the same time, Arabic and French continue to perform important academic, professional, and communicative functions in Algeria's multilingual context. In light of these transformations, this article addresses specialized language needs associated with entrepreneurship in the health sector by taking speech-language pathology training as a case model. Its interdisciplinary nature, at the intersection of linguistics, medical, educational, and neuroscientific fields, offers an appropriate context for discussing the linguistic and communicative needs required by professional practice and health entrepreneurship.

2. Problem Statement and Research Question

Entrepreneurship in higher education is often associated with important organizational, economic, and technical dimensions, such as start-up creation, project incubation, funding, and innovation. This orientation is strengthened when the linguistic and communicative dimension is integrated, because this dimension enables students to transform an idea into a project that can be understood, presented, and developed.

An entrepreneurial project, particularly in the health sector, combines a technical idea with a discourse that describes a problem, explains a solution, addresses beneficiaries, persuades partners, and presents the scientific and social value of the proposed service. This issue is particularly significant in speech-language pathology, where communication is a central object of clinical work and a fundamental component of professional practice. Students may need to read research evidence, understand specialized concepts, write reports, communicate with families and professionals, and present initiatives related to services, awareness, training, or support.

In the Algerian multilingual context, these tasks may be distributed across Arabic, French, and English according to the audience, purpose, and communicative situation. Accordingly, the article is guided by the following main research question: What specialized language needs should university training address in order to prepare speech-language pathology students to move from academic knowledge to health entrepreneurship?

3. Objectives of the Study

The present study aims to present speech-language pathology training as an applied model of an interdisciplinary health and communication field characterized by complex specialized discourse. It also seeks to propose a conceptual framework that organizes the language needs required by speech-language pathology students in their academic, terminological, professional-communicative, and entrepreneurial

dimensions. These needs include reading scientific literature, understanding specialized terminology, explaining services, presenting projects, and constructing clear professional discourse that is appropriate to the context.

4. Methodology and Scope of the Study

The study adopts a theoretical-analytical approach based on a review of the literature and scientific references related to languages for specific purposes (FOS/ESP), language needs analysis, specialized language, academic and professional discourse, and communication in entrepreneurship.

This analysis aims to organize the language needs that should be taken into account when preparing speech-language pathology students to move from academic knowledge to professional and entrepreneurial practice. The analytical framework is grounded in two complementary references in needs analysis and language for specific purposes. The first is the approach of Dudley-Evans and St John (1998), which makes it possible to connect language needs with target situations and academic and professional tasks. The second is Swales's (1990) genre analysis, which helps to understand language tasks as communicative practices connected to specific purposes and discourse communities.

The analysis is organized into three interrelated steps: (1) identifying the target linguistic and communicative tasks in the literature on needs analysis and specialized languages; (2) linking these tasks to the interdisciplinary and communicative characteristics of speech-language pathology training; and (3) deriving the analytical dimensions adopted in the study and identifying the relevant language and communication needs within each dimension.

5. Conceptual Framework

5.1 Specialized Languages: FOS/ESP

Specialized languages refer to the use of language within a specific field of knowledge or professional activity. In such contexts, vocabulary, discourse structures, text types, and communicative functions are connected to the needs of a particular group of learners or professionals. Medical language, legal language, economic language, and speech-language pathology discourse are all specialized uses that go beyond technical vocabulary to include specific patterns of description, reporting, argumentation, and professional communication (Cabré, 1999; Johns & Dudley-Evans, 1991).

The term FOS refers to French for Specific Purposes, that is, the teaching and learning of French according to specific purposes, while ESP refers to the corresponding approach in English. Although these two approaches emerge from different linguistic contexts, both are grounded in learners' needs and in the situations in which language is used. They therefore emphasize the relationship between specialized content, linguistic forms, communicative tasks, and audience expectations (Hutchinson & Waters, 1987; Dudley-Evans & St John, 1998).

5.2 English for Academic Purposes and English for Specific Purposes

English for Academic Purposes is a branch of English for Specific Purposes. It focuses on the use of English in academic contexts, such as reading scientific articles, writing abstracts, understanding lectures, preparing presentations, participating in academic and scientific discussions, and using specialized terminology (Hyland, 2006). English for Academic Purposes is particularly important in health-related specializations because a large part of contemporary scientific production is published in English.

Speech-language pathology students should not understand academic English as a mere translation practice. Rather, it includes the ability to identify the structure and functions of scientific texts, recognize research questions, understand methodologies and limitations, and interpret the way results are formulated.

5.3 Language Needs Analysis

Language needs analysis is one of the fundamental concepts in the field of specialized languages. It refers to the systematic process of identifying the linguistic and communicative competences that learners need in order to perform specific tasks in a given academic or professional context. This analysis is based on examining the requirements of the specialized field, the linguistic tasks performed by learners, and the communicative contexts in which language is used, with the aim of designing training that responds accurately to these needs (Basturkmen, 2010; Dudley-Evans & St John, 1998).

Language needs extend beyond mastery of grammar and vocabulary. They include understanding specialized discourse, using scientific terminology, producing professional texts, communicating orally and in writing, and interacting with different actors in the professional environment.

Within this framework, needs analysis is particularly important in the training of speech-language pathology students. Their needs go beyond general language competence to include a language that enables them to read scientific texts on language disorders, understand terms such as aphasia, working memory, and phonological awareness, summarize studies, describe therapeutic services, present health-related projects, and communicate with families or institutions.

In this article, needs analysis is used as a conceptual tool for linking learners' expected academic, professional, and entrepreneurial tasks with the specialized language competences required in speech-language pathology training.

5.4 Health Entrepreneurship

Health entrepreneurship refers to the transformation of knowledge, services, or innovation related to the health field into applicable and sustainable projects that respond to the needs of individuals and institutions.

Health entrepreneurship is not limited to economic value; it also involves social and ethical responsibilities because it concerns individuals, families, and communities with health, communicative, or social needs. A student wishing to develop a digital application in speech-language pathology, a platform for supporting families, an application for children with communication difficulties, or a remote follow-up initiative needs language that enables them to define the problem responsibly, identify the target population, describe the proposed service, clarify its limits, and present its potential scientific and social value.

In this context, entrepreneurial communication should remain accurate and ethically responsible. It should rely on evidence-informed therapeutic information, respect confidentiality, and distinguish between awareness or support tools and individualized clinical assessment when such assessment is required. Health entrepreneurship discourse therefore combines persuasive ability with accountable professional communication.

5.5 Terminology in Health and Speech-Language Pathology Fields

Terminology constitutes one of the main entry points for understanding specialized language. A term is not merely an isolated word; it functions as a knowledge unit that carries a concept within a specific field. In health-related specializations, terminological accuracy is essential because ambiguity or misunderstanding may affect diagnosis, intervention, or communication with actors in the professional field.

In speech-language pathology, terminology is particularly important because of the interdisciplinary nature of the field. A speech-language pathology term may originate in linguistics, medicine, psychology, neuroscience, or education (Brin-Henry, 2018; Khelifi, 2022). Students therefore need to understand the concept and the contexts in which it is used, rather than simply memorizing words and their equivalents. For example, it is not enough for students to know that the Arabic term al-hubsa corresponds to aphasia; they should also understand that aphasia is an acquired language disorder, that its manifestations vary from one person to another, and that its explanation should be adapted depending on whether they are writing a professional report or speaking to a family.

6. Algerian Higher Education, Health Entrepreneurship, and Specialized Multilingual Communication

The development of entrepreneurship within Algerian higher education provides a rich context for connecting specialized training with project development, innovation, and professional communication. Ministerial Decision No. 1275 (2022), concerning the mechanism of the "University Degree–Start-up / University Degree–Patent," reflects the institutional importance given to transforming university knowledge into innovative projects. In this environment, specialized language competence supports students in formulating ideas, explaining needs, describing services, presenting added value, and interacting with academic, professional, and entrepreneurial actors (Benali Reguieg, 2025).

The Algerian context also gives specialized multilingual communication particular analytical importance. Arabic, French, and English may perform distinct and overlapping functions in university training, specialized terminology, scientific research, local professional interaction, and international academic communication. The growing role of English in Algerian higher education adds another dimension to this environment, particularly in relation to access to scientific literature, research publication, innovation, and international visibility (Ghouali & Bouabdallah, 2024). At the same time, Arabic and French remain important resources for professional communication, terminology, explanation, and mediation within local institutional and social settings.

Health entrepreneurship brings these functions together in concrete communicative tasks. A student developing a digital speech-language pathology service, a platform to support families, a training application, or a remote follow-up project needs to identify the problem being addressed, describe the target population, explain the proposed service, present its scientific and social value, communicate with families and institutions, prepare project documents, and present the project before an incubator or evaluation committee. These tasks place specialized multilingual competence at the intersection of knowledge, service design, professional trust, and entrepreneurial action.

7. Speech-Language Pathology Training as an Applied Case Model

Speech-language pathology training represents an appropriate model for discussing specialized language needs in relation to health entrepreneurship because it belongs to a multidisciplinary health and communication field in which several knowledge systems and professional frameworks intersect. Speech-language pathology does not approach language merely as a means of communication; language and communication are also objects of assessment, diagnosis, counselling, and intervention. Language is therefore present at two levels: as an object of clinical and educational work, and as a tool for training, documentation, professional interaction, and communication with families.

Speech-language pathology students engage with concepts and terms related to linguistics, such as sound, phoneme, phonological awareness, lexicon, syntax, and semantics. They also engage with concepts from medicine and neuroscience, including aphasia, acquired brain injury, neuroplasticity, and swallowing disorders. In addition, they work with concepts from neuropsychology and cognitive neuroscience, such as working memory, attention, executive functions, cognitive processing, and learning.

This model also makes the multilingual dimension more visible. Students may consult scientific literature in English, encounter French terminology in training and professional resources, explain a concept to a family in Arabic, prepare a professional report, and then present a project to a university incubator. These situations show how specialized language needs are distributed across languages, discourse types, audiences, and communicative purposes within the same professional trajectory.

8. Specialized Language Needs of Speech-Language Pathology Students in Light of Health Entrepreneurship

The four dimensions adopted in this study are derived theoretically from principles of needs analysis in languages for specific purposes. This theoretical derivation allows the four dimensions to function as operational categories that connect target academic, professional, and entrepreneurial tasks with the specialized language competences required in speech-language pathology training. Dudley-Evans and St John's (1998) approach views language needs in light of target situations, learners' needs, and the skills and strategies required for performance in academic and professional contexts. Swales's (1990) genre analysis helps to understand language tasks as communicative practices linked to specific purposes and discourse communities. At the intersection of these two frameworks with the interdisciplinary nature of speech-language pathology and the context of health entrepreneurship, needs are organized into four interrelated functional dimensions: the academic dimension related to research and university training; the terminological dimension related to the conceptual density and interdisciplinary nature of the field; the professional-communicative dimension related to interaction with patients, families, teachers, physicians, and institutions; and the entrepreneurial dimension related to identifying problems, describing services, presenting added value, communicating with incubators and partners, and formulating projects. These dimensions are presented as a conceptual and analytical framework that can be examined and further developed in subsequent empirical studies.

8.1 Academic Needs

Academic needs relate to students' ability to use language in research and university training contexts. Speech-language pathology students need to read scientific articles, understand abstracts, extract keywords, identify the research problem, methodology, and findings, write short summaries, and deliver scientific presentations.

Academic reading in this sense does not mean merely translating a text. It means understanding its structure and scientific purpose. Students need to know how a scientific article is constructed, how the problem is formulated, how results are presented, and how the limitations of a study are discussed. When students read, for example, a scientific text on aphasia, developmental language disorder, or phonological awareness, they do not simply acquire specialized English vocabulary; they also gain access to the ways in which scientific knowledge is constructed in their field.

8.2 Terminological Needs

The need to identify and understand specialized terminology is a central component of speech-language pathology training. Students need to understand terms such as aphasia, developmental language disorder, phonological awareness, working memory, executive functions, learning disorders, stuttering, articulation disorders, voice disorders, fluency disorders, and speech-language pathology intervention. They also need to master the French and English equivalents of these terms.

Terminological competence goes beyond recognizing equivalents across languages. It links terms to concepts, specialized contexts, and professional uses. Understanding aphasia, for example, involves understanding its neurological and linguistic dimensions, as well as the ability to explain the condition accurately to a patient, a family member, a colleague, or an institutional partner. In a multilingual context, this competence also involves choosing the appropriate term in Arabic, French, or English according to the audience and communicative purpose.

8.3 Professional-Communicative Needs

Professional-communicative needs relate to students' ability to use language in situations close to practice. Speech-language pathologists communicate not only with specialists but also with children, families, teachers, physicians, and educators. They therefore need language that enables them to describe a

case, explain a disorder, simplify information, provide recommendations, and write a clear professional report or summary.

Professional communication is particularly important in health entrepreneurship because the quality of a health service is also conveyed through clarity, accuracy, accessibility, and professional credibility. Entrepreneurs in the health sector need to adapt specialized information to different audiences while maintaining scientific accuracy and building trust with beneficiaries, partners, and institutions. If discourse is excessively complex, beneficiaries may not understand the service; if it is oversimplified, it may lose scientific accuracy.

8.4 Entrepreneurial Communication Needs

Entrepreneurial communication needs emerge when specialized knowledge is transformed into a service, project, or innovation that must be explained to a range of stakeholders. Speech-language pathology students moving toward health entrepreneurship benefit from competence in defining a problem, identifying beneficiaries, describing the service or solution, presenting scientific and social value, writing a concise project summary, preparing a project sheet, delivering a short oral presentation, and answering questions from incubators, committees, partners, or institutions. These tasks extend specialized language from academic understanding to purposeful project-related communication.

8.5 Multilingualism as an Integrative Dimension

Multilingualism represents an integrative dimension that intersects with the various specialized linguistic and communicative needs identified in this study, reflecting the plurality of languages used in academic, professional, and entrepreneurial contexts. In the Algerian context, English can support access to scientific literature, academic production, innovation networks, and international communication. French may remain relevant to specialized terminology, training materials, and professional interaction, while Arabic can support communication with families, beneficiaries, institutions, and the wider local public. Effective specialized competence therefore includes the ability to select, combine, explain, and mediate linguistic and terminological resources across languages according to the audience, task, and communicative situation.

9. From Language Needs to Training Implications

Based on the proposed conceptual framework, it is possible to identify a set of training orientations that may be tested and further developed in actual educational contexts. This proposal remains at the level of general orientations open to development. The aim of the study is to highlight the elements that university training should consider when connecting specialized languages with health entrepreneurship.

First, training can move from general language teaching toward the construction of specialized language competence, since students' needs go beyond general vocabulary to include language related to their specialization and future contexts of use.

Second, language can be linked to scientific knowledge, so that terminology is learned within scientific and professional contexts rather than as isolated lists, and as part of an integrated specialized practice.

Third, students can be trained to simplify scientific information while maintaining accuracy, because health entrepreneurship requires the ability to address non-specialists in clear and responsible language.

Fourth, skills related to service description and project presentation can be integrated into language training. Students who learn how to describe a speech-language pathology service, write a project sheet, or deliver a short presentation use language as a professional and entrepreneurial tool, rather than merely as a study subject.

Fifth, the construction of functional multilingual glossaries in speech-language pathology can be encouraged. Such glossaries may bring together Arabic, French, and English and function as tools for understanding concepts and contexts of use, in addition to establishing linguistic equivalents.

10. Conclusion and Recommendations

This article has developed a conceptual framework for studying specialized language needs for entrepreneurship in the health sector within Algerian higher education, using speech-language pathology training as an illustrative applied model. The framework places language in the position of a central resource through which specialized knowledge is acquired, organized, transmitted, and transformed into professional and entrepreneurial action.

The framework identifies four interrelated dimensions of specialized language competence: academic competence related to research and university learning; terminological competence for understanding and using specialized concepts; professional-communicative competence for interacting with families and institutions; and entrepreneurial competence for presenting health services, project ideas, and innovative solutions. Speech-language pathology makes these dimensions particularly visible because of its interdisciplinary nature and the communicative density of its practices.

The Algerian multilingual context adds an important integrative dimension to this framework. Arabic, French, and English can provide complementary resources for local communication, professional terminology, university training, scientific research, innovation, and international academic exchange. Specialized language competence can therefore be understood as the ability to strategically mobilize linguistic and terminological resources across languages, audiences, and contexts of use.

On the basis of this framework, specialized language training can be strengthened through needs-based course design, specialized reading and writing tasks, concept-based terminological work, functional multilingual glossaries, professional communication activities, and project-oriented tasks such as service description and presentations. Future empirical research can extend this framework through questionnaires, interviews, classroom observation, curriculum analysis, and the study of health entrepreneurship projects within the university.

Thus, specialized language emerges as a foundational component of entrepreneurial competence in the health sector, linking scientific knowledge, multilingual communication, professional practice, and innovation.

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