Professional Master's Degree

Speech and Language Disorders

tech global university

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Professional Master's Degree
Speech and Language Disorders

- Modality: **online**
- Duration: **12 months**
- Certificate: **TECH Global University**
- Accreditation: **60 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: www.techtitute.com/us/medicine/professional-master-degree/master-speech-language-disorders

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01

Introduction to the Program

Speech and Language Disorders encompass a variety of conditions that interfere with the individual's ability to communicate effectively, affecting crucial aspects of their well-being and development. From Articulation Disorders to complex Neurological Disorders, their diagnosis and treatment require an integrated and specialized approach. For this reason, it is essential that specialists remain at the forefront of the latest advances in order to address the comprehensive needs of patients affected by these diseases. With this in mind, TECH presents a pioneering university program focused on the latest innovations in the treatment of Speech and Language conditions. In addition, it is delivered in a convenient and fully online modality.

Thanks to this 100% online program, you will create highly personalized therapeutic programs to optimize the general well-being of patients with Speech and Language Disorders"

A new report by the World Health Organization highlights that 12% of children globally suffer from language disorders, representing a significant public health concern. These conditions impact various areas of child development, including education, socialization, and emotional well-being. In response to this situation, professionals must implement new evidence-based diagnostic and treatment strategies that enable early and effective intervention.

In this context, TECH developed an innovative program in Speech and Language Disorders. Designed by leading experts in the field, the syllabus will explore topics ranging from the use of the most modern neuropsychological rehabilitation techniques and the identification of common conditions such as dysarthria to the creation of specific programs to address dyslexia. As a result, graduates will acquire the skills necessary to implement advanced and personalized therapeutic interventions, improving the treatment of speech and language disorders across various populations. They will also be equipped to lead clinical and research projects, contributing to the advancement of knowledge in the field and enhancing care processes for individuals.

Furthermore, the academic program follows a 100% online methodology, allowing physicians to complete it with maximum flexibility. To access the content, only an Internet-connected electronic device is required, as schedules and assessment timelines can be planned individually. The syllabus is supported by the innovative Relearning teaching system, which uses repetition to ensure mastery of key concepts. In addition, graduates will find a wide range of multimedia support resources on the Virtual Campus, such as interactive summaries, in-depth videos, and specialized readings based on the latest scientific evidence. In this way, professionals will progressively update their knowledge.

This **Professional Master's Degree in Speech and Language Disorders** contains the most complete and up-to-date scientific program on the market. Its most notable features are:

- The development of case studies presented by experts in Speech and Language Disorders
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where the self-assessment process can be carried out to improve learning
- Its special emphasis on innovative methodologies
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection

You will lead multidisciplinary work teams to apply individualized therapeutic interventions to treat language disorders in individuals of all ages"

You will delve into the ethical principles in the management of Language and Speech Disorders, which will allow you to ensure the confidentiality of patient information"

You will be able to detect language disorders derived from various neurological conditions.

With TECH's ground-breaking Relearning system, you will assimilate the key concepts of the syllabus quickly, naturally and accurately.

Its teaching staff includes professionals from the field of Speech and Language Disorders, who bring their work experience to this program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide an immersive learning experience designed to prepare for real-life situations.

This program is designed around Problem-Based Learning, whereby the student must try to solve the different professional practice situations that arise throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Why Study at TECH?

TECH is the world's largest online university. With an impressive catalog of more than 14,000 university programs, available in 11 languages, it is positioned as a leader in employability, with a 99% job placement rate. In addition, it has a huge faculty of more than 6,000 professors of the highest international prestige.

Study at the largest online university in the world and ensure your professional success. The future begins at TECH"

The world's best online university, according to FORBES

The prestigious Forbes magazine, specialized in business and finance, has highlighted TECH as "the best online university in the world" This is what they have recently stated in an article in their digital edition in which they echo the success story of this institution, "thanks to the academic offer it provides, the selection of its teaching staff, and an innovative learning method oriented to form the professionals of the future".

The best top international faculty

TECH's faculty is made up of more than 6,000 professors of the highest international prestige. Professors, researchers and top executives of multinational companies, including Isaiah Covington, performance coach of the Boston Celtics; Magda Romanska, principal investigator at Harvard MetaLAB; Ignacio Wistumba, chairman of the department of translational molecular pathology at MD Anderson Cancer Center; and D.W. Pine, creative director of TIME magazine, among others.

The world's largest online university

TECH is the world's largest online university. We are the largest educational institution, with the best and widest digital educational catalog, one hundred percent online and covering most areas of knowledge. We offer the largest selection of our own degrees and accredited online undergraduate and postgraduate degrees. In total, more than 14,000 university programs, in ten different languages, making us the largest educational institution in the world.

The most complete syllabuses on the university scene

TECH offers the most complete syllabuses on the university scene, with programs that cover fundamental concepts and, at the same time, the main scientific advances in their specific scientific areas. In addition, these programs are continuously updated to guarantee students the academic vanguard and the most demanded professional skills. and the most in-demand professional competencies. In this way, the university's qualifications provide its graduates with a significant advantage to propel their careers to success.

A unique learning method

TECH is the first university to use Relearning in all its programs. This is the best online learning methodology, accredited with international teaching quality certifications, provided by prestigious educational agencies. In addition, this innovative academic model is complemented by the "Case Method", thereby configuring a unique online teaching strategy. Innovative teaching resources are also implemented, including detailed videos, infographics and interactive summaries.

The official online university of the NBA

TECH is the official online university of the NBA. Thanks to our agreement with the biggest league in basketball, we offer our students exclusive university programs, as well as a wide variety of educational resources focused on the business of the league and other areas of the sports industry. Each program is made up of a uniquely designed syllabus and features exceptional guest hosts: professionals with a distinguished sports background who will offer their expertise on the most relevant topics.

Leaders in employability

TECH has become the leading university in employability. Ninety-nine percent of its students obtain jobs in the academic field they have studied within one year of completing any of the university's programs. A similar number achieve immediate career enhancement. All this thanks to a study methodology that bases its effectiveness on the acquisition of practical skills, which are absolutely necessary for professional development.

Google Premier Partner

The American technology giant has awarded TECH the Google Premier Partner badge. This award, which is only available to 3% of the world's companies, highlights the efficient, flexible and tailored experience that this university provides to students. The recognition not only accredits the maximum rigor, performance and investment in TECH's digital infrastructures, but also places this university as one of the world's leading technology companies.

The top-rated university by its students

Students have positioned TECH as the world's top-rated university on the main review websites, with a highest rating of 4.9 out of 5, obtained from more than 1,000 reviews. These results consolidate TECH as the benchmark university institution at an international level, reflecting the excellence and positive impact of its educational model.

03

Syllabus

The teaching materials that make up this university degree have been designed by true experts in the management of Speech and Language Disorders. As such, the academic itinerary will delve into aspects ranging from the fundamentals of phonological processing or the implementation of early stimulation approaches to the most innovative diagnostic techniques for identifying conditions such as Apraxia. In this way, graduates will develop advanced clinical skills to design personalized intervention plans that considerably optimize the general well-being of patients.

You will delve into making accurate clinical diagnoses of Speech and Language Disorders"

Module 1. Neuropsychology of Language

1.1. Neuropsychology and Speech Therapy
- 1.1.1. Basic Concepts
  - 1.1.1.1. Definition of Neuropsychology
  - 1.1.1.2. Relationship between Neuropsychology and Speech Therapy
  - 1.1.1.3. Cognitive Functions and their Relationship with Language
- 1.1.2. Assessment Methodologies
  - 1.1.2.1. Neuroimaging Techniques
  - 1.1.2.2. Neuropsychological Assessment of Language
- 1.1.3. Technique and Approach Route
  - 1.1.3.1. Interdisciplinary Approach to Speech Therapy
  - 1.1.3.2. Techniques for Neuropsychological Rehabilitation of Language
  - 1.1.3.3. Speech Therapy Strategies for the Treatment of Cognitive and Communicative Disorders

1.2. Neuroanatomical Bases of Language
- 1.2.1. Brain Structures Involved
  - 1.2.1.1. Broca's and Wernicke's Areas
  - 1.2.1.2. Angular Gyrus and its Role in Reading
  - 1.2.1.3. Temporal Lobe and Its Relationship with Comprehension
- 1.2.2. Brain Connections
  - 1.2.2.1. Arcuate Fasciculus
  - 1.2.2.2. Interhemispheric Connections
- 1.2.3. Left vs. Right Brain in Language
  - 1.2.3.1. Hemispheric Dominance
  - 1.2.3.2. Function of the Right Hemisphere in Non-verbal Language

1.3. Neurocognitive Processes of Language
- 1.3.1. Language Comprehension
  - 1.3.1.1. Phonological and Lexical Decoding
  - 1.3.1.2. Semantic and Pragmatic Comprehension
- 1.3.2. Language Production
  - 1.3.2.1. Phonological Processing
  - 1.3.2.2. Lexical, Syntactic and Semantic Processing
- 1.3.3. Memory and Language
  - 1.3.3.1. Verbal Working Memory
  - 1.3.3.2. Long-Term Memory and Language

1.4. Neuronal Plasticity and Language
- 1.4.1. Concept of Brain Plasticity
  - 1.4.1.1. Definition and Types of Brain Plasticity
  - 1.4.1.2. Factors Influencing Brain Plasticity
- 1.4.2. Mechanisms of Neuronal Plasticity
  - 1.4.2.1. Synaptic Plasticity and its Role in Learning
  - 1.4.2.2. Neurogenesis and its Implication in Brain Repair
- 1.4.3. Impact of Plasticity on Language Recovery
  - 1.4.3.1. Adaptation Mechanisms in Language Disorders
  - 1.4.3.2. Cortical Plasticity in Language Restructuring
- 1.4.4. Age and Plasticity
  - 1.4.4.1. Effects of Early Age on Neuronal Plasticity
  - 1.4.4.2. Plasticity in Adulthood and its Relationship with Language Learning
- 1.4.5. Brain Rehabilitation and Stimulation
  - 1.4.5.1. Brain Stimulation Techniques for Language Rehabilitation
  - 1.4.5.2. Speech Therapies and their Impact on Neuronal Plasticity

1.5. Neurobiological Language Disorders in Children
- 1.5.1. Speech Disorders
  - 1.5.1.1. Speech Disorders
  - 1.5.1.2. Childhood Apraxia
  - 1.5.1.3. Childhood Dysarthria
- 1.5.2. Language Disorders
  - 1.5.2.1. Specific Language Disorder (SLD)
  - 1.5.2.2. Developmental Language Disorder
  - 1.5.2.3. Simple Language Delay
- 1.5.3. Related Disorders and Neurodevelopmental Disorders
  - 1.5.3.1. Acquired Childhood Aphasia
  - 1.5.3.2. Autism Spectrum Disorder
  - 1.5.3.3. Down Syndrome
  - 1.5.3.4. Cerebral Palsy

1.6. Neuropsychological Assessment of Language in Children
- 1.6.1. Assessment Techniques
  - 1.6.1.1. Standardized Tests
  - 1.6.1.2. Clinical and Observational Assessment
- 1.6.2. Specific Neuropsychological Instruments
  - 1.6.2.1. Verbal Fluency Assessment
  - 1.6.2.2. Language Development Scales
- 1.6.3. Interpretation of Results
  - 1.6.3.1. Analysis of Language Skills
  - 1.6.3.2. Identification of Disorders and Comorbidities

1.7. Neuropsychological Rehabilitation in Children
- 1.7.1. Early Intervention
  - 1.7.1.1. Language Therapy
  - 1.7.1.2. Early Stimulation Approaches
- 1.7.2. Specific Therapeutic Approaches
  - 1.7.2.1. Therapies Based on Games
  - 1.7.2.2. Cognitive-Behavioral Therapy for Language
- 1.7.3. Rehabilitation Techniques
  - 1.7.3.1. Brain Plasticity Therapies
  - 1.7.3.2. Language Rehabilitation Using Technology

1.8. Neurobiological Language Disorders in Adults
- 1.8.1. Aphasia
  - 1.8.1.1. Broca's Aphasia
  - 1.8.1.2. Wernicke's Aphasia
  - 1.8.1.3. Global Aphasia
- 1.8.2. Disorders Related to Acquired Brain Injury
  - 1.8.2.1. Dysarthria
  - 1.8.2.2. Speech Apraxias
- 1.8.3. Neurodegenerative Disorders
  - 1.8.3.1. Alzheimer's Disease and Language
  - 1.8.3.2. Language Disorders in Amyotrophic Lateral Sclerosis (ALS)
  - 1.8.3.3. Language Disorders in Parkinson's Disease

1.9. Neuropsychological Assessment of Language in Adults
- 1.9.1. Neuropsychological Tests in Adults
  - 1.9.1.1. Assessment of Aphasias
  - 1.9.1.2. Assessment of Cognitive and Linguistic Disorders
- 1.9.2. Diagnostic Methods
  - 1.9.2.1. Clinical Interviews and Medical History
  - 1.9.2.2. Functional Assessment Scales
- 1.9.3. Interpretation of Results in Adults
  - 1.9.3.1. Assessment of Verbal Disfluency
  - 1.9.3.2. Differentiation between Aphasia and Dementia

1.10. Neuropsychological Rehabilitation in Adults
- 1.10.1. Rehabilitation after a Cerebrovascular Accident (CVA)
  - 1.10.1.1. Post-CVA Speech Therapy
  - 1.10.1.2. Approaches Based on Neuroplasticity
- 1.10.2. Rehabilitation in Neurodegenerative Diseases
  - 1.10.2.1. Intervention Approaches in Alzheimer's Disease
  - 1.10.2.2. Language Rehabilitation in Amyotrophic Lateral Sclerosis (ALS)
- 1.10.3. Emerging Therapies
  - 1.10.3.1. Cognitive-Behavioral Therapy in Aphasia
  - 1.10.3.2. Use of Technologie for Language Rehabilitation

Module 2. Statistics

2.1. Introduction to Statistics
- 2.1.1. Basic Concepts
- 2.1.2. Types of Variables
- 2.1.3. Statistical Information

2.2. Data Record Sorting and Classifying
- 2.2.1. Description of Variables
- 2.2.2. Frequency Distribution Table
- 2.2.3. Quantitative and Qualitative Frequency Distribution Tables

2.3. Applications of Information and Communication Technologies (ICT) and Practical Systems
- 2.3.1. Basic Concepts
- 2.3.2. Tools
- 2.3.3. Data Representation

2.4. Data Summary Measures I
- 2.4.1. Descriptive Statistics
- 2.4.2. Centralization Measurements
- 2.4.3. Measures of Dispersion
- 2.4.4. Measures of Shape and Position

2.5. Data Summary Measures II
- 2.5.1. Box Plots
- 2.5.2. Identifying Outliers
- 2.5.3. Transformation

2.6. Statistical Analysis of the Relationship between the Two Variables
- 2.6.1. Tabulation
- 2.6.2. Contingency Tables and Graphical Representations
- 2.6.3. Linear Relationship between Quantitative Variables

2.7. Time Series and Index Numbers
- 2.7.1. Time Series
- 2.7.2. Rates of Change
- 2.7.3. Index Numbers
- 2.7.4. The Consumer Price Index (CPI) and Deflated Time Series

2.8. Introduction to Probability: Calculation and Basic Concepts
- 2.8.1. Basic Concepts
- 2.8.2. Set Theory
- 2.8.3. Probability Calculation

2.9. Random Variables and Probability Distributions
- 2.9.1. Random Variables
- 2.9.2. Variable Measurements
- 2.9.3. Function of Probability

2.10. Probability Models for Random Variables
- 2.10.1. Probability Calculation
- 2.10.2. Discrete Random Variables
- 2.10.3. Continuous Random Variables
- 2.10.4. Models Derived from Normal Distribution

Module 3. Learning Disorders: Literacy

3.1. Principles for Learning Literacy and Mathematics
- 3.1.1. Definition of Literacy and Numeracy
  - 3.1.1.1. Key Components of Literacy (Reading and Writing)
  - 3.1.1.2. Fundamental Components of Numeracy: Basic Operations and Initial Mathematical Concepts
- 3.1.2. Objectives of Learning Literacy and Numeracy in Childhood
  - 3.1.2.1. Development of Basic Literacy Skills in Childhood
  - 3.1.2.2. Introduction to the Concept of Numbers and Mathematical Operations
  - 3.1.2.3. Fostering Logical Thinking through Literacy and Mathematics
- 3.1.3. The Importance of Language in the Development of Mathematics
  - 3.1.3.1. The Role of Verbal Language in Mathematical Thinking
- 3.1.4. Connection Between Linguistic Abilities and Mathematical Abilities
  - 3.1.4.1. Relationship Between Reading Comprehension and Solving Mathematical Problems
  - 3.1.4.2. The Impact of Written Expression on the Resolution of Mathematical Problems
  - 3.1.4.3. Link between Following Instructions and Success in Mathematical Activities
- 3.1.5. Cognitive Development in Literacy and Numeracy
  - 3.1.5.1. Stages of Cognitive Development in Literacy
  - 3.1.5.2. Stages of Cognitive Development in Numeracy

3.2. Neurological Basis of Literacy and Numeracy
- 3.2.1. The Brain and its Cognitive Functions in Literacy
  - 3.2.1.1. Brain Areas Involved in Literacy Processing
  - 3.2.1.2. Cognitive Processing of Literacy

3.2.2. Neuroplasticity and its Impact on Learning to Read and Write
3.2.2.1. The Concept of Neuroplasticity in the Context of Learning
3.2.2.2. Pedagogical Strategies to Promote Neuroplasticity in School Learning
3.2.3. Brain Areas Involved in Mathematical Thinking
3.2.3.1. Cortical Areas Involved in Numerical Processing and Mathematical Operations
3.2.3.2. Interaction Between Brain Areas in Mathematical Reasoning
3.2.3.3. Cognitive Processing of Mathematical Calculation

3.3. Individual Development and Learning Capacity for Literacy and Numeracy: Biological and Environmental Factors
3.3.1. The Role of Genetics in Learning Literacy and Mathematics
3.3.1.1. Influence of Genetic Factors on the Development of Academic Skills
3.3.1.2. Genetic Disorders Affecting Reading, Writing and Arithmetic (e.g. Dyslexia and Dyscalculia)
3.3.1.3. Inheritance and Predisposition to Learning Difficulties
3.3.2. Environmental Factors: Home, School and Culture
3.3.2.1. Influence of the Family Environment on Child Learning
3.3.2.2. The Impact of the School Environment and the Curriculum on the Development of Linguistic and Mathematical Skills
3.3.3. Influence of Socioeconomic Factors on Academic Performance
3.3.3.1. Effects of Poverty on Access to Educational Resources and Family Support
3.3.3.2. Inequalities in Academic Performance due to Socioeconomic Factors
3.3.4. Early Stimulation in the Development of Academic Skills
3.3.4.1. The Impact of Early Stimulation on Literacy and Numeracy
3.3.4.2. Strategies for Cognitive Stimulation in the Early Years

3.4. Individual Development and Learning Capacity for Literacy and Numeracy: Psychological Factors
3.4.1. Psychological Theories of Cognitive Development in Childhood
3.4.1.1. Piagets Theory
3.4.1.2. Vygotsky's Sociocultural Theory
3.4.1.3. Gardner's Theory of Multiple Intelligences
3.4.2. Motivation and its Impact on Learning of Literacy and Numeracy
3.4.2.1. The Theories of Motivation in the Context of Academic Learning
3.4.2.2. Factors Affecting Motivation
3.4.2.3. Teaching Strategies to Increase Motivation in Students with Difficulties
3.4.3. The Role of Impulsivity in School Learning
3.4.3.1. Impulsivity as a Barrier in the Reading and Arithmetic Process
3.4.3.2. Relationship Between Impulsivity and Errors in Text Comprehension
3.4.3.3. Strategies for Managing Impulsivity in the Classroom
3.4.4. The Influence of Self-Esteem on Academic Performance
3.4.4.1. The Relationship Between Self-Esteem and Academic Success in Literacy and Numeracy
3.4.4.2. Factors Affecting Self-Esteem in Children with Learning Difficulties
3.4.4.3. Interventions to Improve Self-Esteem in Students with Difficulties

3.5. Theoretical Models in the Acquisition of Literacy
3.5.1. Cognitive Models and their Application in the Teaching of Literacy
3.5.1.1. The Information Processing Model in Literacy
3.5.1.2. Application of Cognitive Models to Improve Reading Comprehension
3.5.1.3. Teaching Strategies Based on Cognitive Models
3.5.2. Theory of Parallel Processing and its Relationship with Literacy
3.5.2.1. Fundamentals of Parallel Processing Theory
3.5.2.2. Applications of Parallel Processing Theory in Literacy
3.5.3. Serial and Interactive Models in Literacy Learning
3.5.3.1. Differences between Serial and Interactive Models
3.5.3.2. Application of these Models in the Teaching of Reading and Writing
3.5.4. Connectionist Models and their Application in the Teaching of Literacy
3.5.4.1. Basic Principles of Connectionist Models
3.5.4.2. How Connectionist Models Facilitate the Acquisition of Literacy

3.6. Variables that Influence Literacy
3.6.1. The Importance of Frequency in the Acquisition of Literacy
3.6.1.1. The Role of Repetition in Learning Words and Sounds
3.6.1.2. How the Frequency of Exposure to Words Improves Reading Comprehension
3.6.1.3. Strategies for Increasing the Frequency of Reading Practice

3.6.2. The Impact of the Order of Word Acquisition on Learning
3.6.2.1. Theories on the Natural Order of Word Acquisition
3.6.2.2. The Impact of Order on Vocabulary Building and Comprehension
3.6.2.3. Speech Therapy Applications to Improve Reading Acquisition
3.6.3. Linguistic Factors: Familiarity, Length, Imaginability and Syllabic Frequency
3.6.3.1. Familiarity of Words
3.6.3.2. The Effect of Word Length and Complexity on Comprehension
3.6.3.3. Relationship between the Imaginability of Words and their Comprehension
3.6.4. Relationship between Literacy Variables and Academic Performance
3.6.4.1. Reading Proficiency and Success in Other Academic Subjects
3.6.4.2. Literacy Skills Related to Performance in Mathematics
3.6.4.3. Strategies to Improve Academic Performance through Literacy
3.6.5. Practical Applications of Determining Variables in the Classroom
3.6.5.1. Teaching Activities Based on Word Frequency and Familiarity
3.6.5.2. Strategies to Improve Comprehension of Long and Complex Texts
3.6.5.3. Strategies to Enhance Learning of High Syllable Frequency Words

3.7. Dyslexia and Reading Delay
3.7.1. Definition of Dyslexia and Reading Delay
3.7.1.1. Differences between Dyslexia and Reading Delay
3.7.1.2. Common Characteristics of Dyslexia and Reading Delay
3.7.1.3. Causes and Initial Manifestations of Both Disorders
3.7.2. Causes and Risk Factors for the Development of Dyslexia
3.7.2.1. Genetic and Hereditary Factors
3.7.2.2. The Influence of the Prenatal Environment
3.7.2.3. Neurobiological Factors
3.7.3. Characteristics of Dyslexia
3.7.3.1. Common Reading Errors
3.7.3.2. Phonological Awareness and Dyslexia
3.7.3.3. Word Identification and Reading Comprehension
3.7.4. Strategies for Early Intervention in Dyslexia
3.7.4.1. Strategies to Improve Word Recognition
3.7.4.2. Methods to Improve Reading Fluency
3.7.4.3. Strategies to Improve Reading Comprehension
3.7.5. Diagnosis and Evaluation of Dyslexia
3.7.5.1. Diagnostic Methods for Dyslexia
3.7.5.2. The Importance of Early Assessment
3.7.5.3. Multidisciplinary Assessment: Psychologists, Speech Therapists and Pedagogues in Diagnosis

3.8. Dysgraphia and Dysorthographia
3.8.1. Definition of Dysgraphia and Dysorthographia
3.8.1.1. Differences between Dysgraphia and Dysorthographia
3.8.1.2. Typical Manifestations of Dysgraphia and Dysorthographia
3.8.1.3. Relationship between Dysgraphia and Dysorthographia
3.8.1.4. Neurological Causes
3.8.2. Classification of Central Dysgraphias
3.8.2.1. Types of Dysgraphia: Phonological, Surface and Deep
3.8.2.2. Neurological Causes of Central Dysgraphia
3.8.2.3. Characteristics of Writing in Central Dysgraphia
3.8.3. Peripheral Dysgraphia: Motor Dysgraphia (Dysorthographia)
3.8.3.1. Definition of Motor Dysgraphia and its Characteristics
3.8.3.2. The Relationship Between Fine Motor Control and Difficulties in Writing
3.8.3.3. Characteristics of Dysorthography
3.8.4. Assessment of Dysgraphia
3.8.4.1. Diagnostic Tools for the Assessment of Dysgraphia
3.8.4.2. Methods of Observation and Written Assessment in Diagnosis
3.8.5. Intervention and Treatment for Dysgraphia and Dysorthographia
3.8.5.1. Therapeutic Strategies to Improve Motor Skills in Writing
3.8.5.2. Methods to Correct Spelling Errors in Children with Dysorthographia
3.8.5.3. Speech Therapy Techniques and Intervention Programs

3.9. Difficulties in Learning Mathematics (MLD)
3.9.1. Definition of Difficulties in Learning Mathematics (MLD)
3.9.1.1. Concept of Difficulties in Learning Mathematics
3.9.1.2. The Distinction Between Learning Difficulty and Cognitive Deficit
3.9.1.3. Common Characteristics of Children with MLD

3.9.2. Classification of MLD: Types and Characteristics
3.9.2.1. Types of Mathematics Difficulties: Problems in Arithmetic, Geometry, Reasoning
3.9.2.2. Characteristics of Students with Difficulties in Each Area of Mathematics
3.9.2.3. Classification According to the Severity of the Difficulties
3.9.3. Etiology of Mathematical Difficulties: Cognitive and Environmental Causes
3.9.3.1. Cognitive Causes Related to Mathematical Processing
3.9.3.2. The Impact of the Family and School Environment on Mathematical Difficulties
3.9.3.3. Emotional Factors and Their Contribution to MLD
3.9.4. Assessment of Learning Difficulties in Mathematics
3.9.4.1. Assessment Tools and Techniques for Detecting MLD
3.9.4.2. The Use of Standardized Tests and Diagnostic Assessments
3.9.4.3. Individualized Assessment: The Importance of Strengths and Weaknesses Analysis
3.9.5. Intervention in Mathematical Difficulties: Strategies and Approaches
3.9.5.1. Educational Intervention Methods for Students with MLD
3.9.5.2. Individual and Group Approaches to Improve Mathematical Performance
3.9.5.3. The Use of Manipulatives and Technology in Mathematics Teaching
3.9.6. The Importance of Early Detection in MLD
3.9.6.1. How Early Detection Improves Academic Outcomes
3.9.6.2. Tools for Identifying Early Signs of Mathematical Difficulties
3.9.6.3. The Role of Parents and Teachers in Detection and Early Support
3.10. Reading Comprehension and its Relationship to Logical Thinking in Students with Learning Difficulties
3.10.1. Definition of Reading Comprehension
3.10.1.1. Importance of Reading Comprehension in Academic Development
3.10.1.2. Relationship between Reading Comprehension and Logical Thinking
3.10.2. Fundamentals of Reading Comprehension
3.10.2.1. Models of Reading Comprehension: Literal, Inferential and Critical
3.10.2.2. Cognitive Processes Involved in Text Comprehension
3.10.2.3. Factors Affecting Reading Comprehension: Vocabulary, Reading Fluency, Motivation and Context

3.10.3. Logical Thinking and its Relationship to Reading Comprehension
3.10.3.1. Definition of Logical Thinking and its Components (Reasoning, Analysis and Problem Solving)
3.10.3.2. How Logical Thinking Influences the Interpretation and Analysis of Texts
3.10.4. Strategies to Improve Reading Comprehension and Logical Thinking
3.10.4.1. Pedagogical Intervention Strategies to Improve Reading Comprehension
3.10.4.2. Techniques to Stimulate Logical Thinking in Students with Learning Difficulties
3.10.4.3. Technological Tools and Multisensory Methods to Support Learning
3.10.5. Assessment of Reading Comprehension and Logical Thinking
3.10.5.1. Methods for Assessment of Reading Comprehension: Standardized Tests and Observation
3.10.6. Strategies to Improve Reading Comprehension
3.10.6.1. Metacognitive Strategies
3.10.6.2. Language Strategies

Module 4. Developmental Language Disorder and Acquired Disorders

4.1. Introduction to the Development of Communication and Language
4.1.1. Introduction and Objectives
4.1.1.1. Purpose of the Subject
4.1.1.2. Relationship between Language and Communication
4.1.2. Conceptualization of Language
4.1.2.1. Definition of Language
4.1.2.2. Fundamental Characteristics of Language
4.1.3. Modalities of Language
4.1.3.1. Oral Language
4.1.3.2. Written Language
4.1.3.3. Non-Verbal Language
4.1.3.4. Sign Language
4.1.4. Linguistic Components: Structural and Metalinguistic
4.1.4.1. Structural Components: Phonology, Morphology, Syntax, Semantics and Pragmatics
4.1.4.2. Metalinguistic Components: Phonological Awareness, Implicit Grammar, etc.
4.1.5. Language Functions
4.1.5.1. Referential Function
4.1.5.2. Expressive Function
4.1.5.3. Appellative Function
4.1.5.4. Metalinguistic Function
4.1.5.5. Phatic Function
4.1.6. Development of Language and Linguistic Components
4.1.6.1. Stages of Language Development
4.1.6.2. Acquisition of Linguistic Components
4.1.7. Acquired Language Disorder
4.1.7.1. Definition of Acquired Disorder
4.1.7.2. Impact of Acquired Disorders on Language
4.1.8. Approach to the Theoretical Model of Cognitive Neuropsychology for Understanding Acquired Language
4.1.8.1. Theoretical Models of Cognitive Neuropsychology
4.1.8.2. Relationship between Brain Functions and Acquired Disorders
4.2. Conceptualization of Language Development Disorders
4.2.1. Introduction and Objectives
4.2.1.1. Purpose of Understanding Developmental Disorders
4.2.1.2. Objectives of the Treatment of Developmental Language Disorders
4.2.2. Neuropsychological Bases of Developmental Language Disorders
4.2.2.1. Brain Functions Involved in Language
4.2.2.2. Relationship Between the Brain and Linguistic Development
4.2.3. Developmental Language Disorders: Conceptualization
4.2.3.1. Definition and General Characteristics
4.2.3.2. Differences Between Developmental Disorders and Acquired Disorders
4.2.4. Classification of Language Development Disorders
4.2.4.1. Specific Language Disorders (SLD)
4.2.4.2. General Language Disorder
4.2.4.3. Other Related Disorders (Such as Dyslexia or Dysgraphia)

4.3. Simple Language Delay
- 4.3.1. Introduction and Objectives
  - 4.3.1.1. General Description of Simple Delay
  - 4.3.1.2. Objectives of Diagnosis and Intervention
- 4.3.2. Simple Language Delay: Definition
  - 4.3.2.1. Features of a Simple Language Delay
  - 4.3.2.2. Distinction between Simple Language Delay and Others Disorders
- 4.3.3. Etiology
  - 4.3.3.1. Genetic Factors
  - 4.3.3.2. Environmental Factors
- 4.3.4. Classification
  - 4.3.4.1. Delay in Expressive Language
  - 4.3.4.2. Delay in Comprehension Language
- 4.3.5. Simple Language Delay: Language Difficulties
  - 4.3.5.1. Difficulties in Speech Production
  - 4.3.5.2. Difficulties in Comprehension
- 4.3.6. Other Associated Difficulties
  - 4.3.6.1. Emotional and Social Difficulties
  - 4.3.6.2. Attention Disorders
- 4.3.7. Simple Language Delay: Relevant Research
  - 4.3.7.1. Recent Research on Diagnosis and Intervention

4.4. Developmental Language Disorder
- 4.4.1. Introduction and Objectives
  - 4.4.1.1. Purpose of Treating Developmental Language Disorder (DLD)
  - 4.4.1.2. Importance of Early Diagnosis
- 4.4.2. Developmental Language Disorder: Definition
  - 4.4.2.1. Characteristics of DLD
  - 4.4.2.2. Differentiation from Other Language Disorders
- 4.4.3. Etiology
  - 4.4.3.1. Genetic and Neurobiological Causes
  - 4.4.3.2. Environmental and Social Factors
- 4.4.4. Classification
  - 4.4.4.1. Mild, Moderate and Severe DLD
  - 4.4.4.2. DLD with Comorbidities (such as ADHD)
- 4.4.5. DLD: Language Difficulties
  - 4.4.5.1. Grammar and Syntax Deficiencies
  - 4.4.5.2. Problems in Vocabulary Acquisition
- 4.4.6. Other Associated Difficulties
  - 4.4.6.1. Behavioral Disorders
  - 4.4.6.2. Emotional Disorders
- 4.4.7. Recent Research
  - 4.4.7.1. Therapeutic Approaches and Advances in Intervention

4.5. Social Communication Disorder (Pragmatics) and Selective Mutism
- 4.5.1. Introduction and Objectives
  - 4.5.1.1. General Description of Social Communication Disorder (SCD) and Selective Mutism
  - 4.5.1.2. Treatment Objectives for these Disorders
- 4.5.2. SCD: Definition
  - 4.5.2.1. Characteristics of Social Communication Disorder
  - 4.5.2.2. Differentiation from other Autism Spectrum Disorders
- 4.5.3. Etiology of SCD
  - 4.5.3.1. Genetic Factors
  - 4.5.3.2. Psychological and Social Factors
- 4.5.4. SCD: Language Difficulties
  - 4.5.4.1. Difficulties in the Pragmatic and Social Use of Language
  - 4.5.4.2. Atypical Behavior in Social Interaction
- 4.5.5. Other Associated Difficulties
  - 4.5.5.1. Social Anxiety
  - 4.5.5.2. Deficits in Conversation Skills
- 4.5.6. SCD: Relevant Research
  - 4.5.6.1. Therapeutic Approaches and Treatment Evidence
- 4.5.7. Selective Mutism: Definition
  - 4.5.7.1. Characteristics and Diagnosis of Selective Mutism

4.5.8. Etiology of Selective Mutism
4.5.8.1. Genetic and Environmental Factors
4.5.8.2. Associated Comorbidities
4.5.9. Linguistic and Communicative Difficulties of Selective Mutism
4.5.9.1. Impact on Verbal Expression
4.5.9.2. Difficulties in Interaction in Different Contexts
4.5.10. Other Difficulties Associated with Selective Mutism
4.5.10.1. Anxiety Disorders
4.5.10.2. Social Isolation
4.5.11. Selective Mutism: Relevant Research
4.5.11.1. Evidence-Based Intervention Strategies

4.6. Acquired Language Disorder
4.6.1. Introduction and Objectives
4.6.1.1. Characteristics of Acquired Disorders
4.6.1.2. Relevance of Studies of Acquired Disorders
4.6.2. Acquired Language Disorders: Definition
4.6.2.1. What are Acquired Disorders
4.6.2.2. Differences with Developmental Disorders
4.6.3. Acquired Language Disorders: Classification
4.6.3.1. Aphasia
4.6.3.2. Speech Apraxias
4.6.3.3. Agnosias
4.6.4. Relevant Research
4.6.4.1. Advances in Cognitive Neuropsychology Applied to Acquired Disorders

4.7. Aphasia
4.7.1. Introduction and Objectives
4.7.1.1. General Description of Aphasias
4.7.1.2. Objectives of Aphasia Treatment
4.7.2. Aphasias: Definition
4.7.2.1. Types of Aphasia: Broca's Aphasia, Wernicke's Aphasia, etc.
4.7.2.2. Most Common Symptoms
4.7.3. Etiology
4.7.3.1. Neurological Causes (Stroke, Head Injuries)
4.7.3.2. Predisposing Factors
4.7.4. Aphasias: Classification
4.7.4.1. Classification According to the Type of Aphasia
4.7.4.2. Classification According to Level of Severity
4.7.5. Aphasias: Main Linguistic Manifestations
4.7.5.1. Difficulties in Speech Production
4.7.5.2. Difficulties in Comprehension
4.7.6. Other Associated Difficulties
4.7.6.1. Dysarthria and Apraxia
4.7.6.2. Emotional Disorders
4.7.7. Recent Research
4.7.7.1. Therapeutic Approaches and Current Results

4.8. Neurodegenerative Diseases
4.8.1. Introduction and Objectives
4.8.1.1. Definition of Neurodegenerative Diseases
4.8.1.2. Objectives of Diagnosis and Intervention
4.8.2. Neurodegenerative Diseases: Definition
4.8.2.1. General Description of Diseases such as Alzheimer's, Multiple Sclerosis, etc.
4.8.3. Etiology of Degenerative Diseases
4.8.3.1. Genetic and Environmental Factors
4.8.3.2. Pathological Mechanisms
4.8.4. Classification of Degenerative Diseases
4.8.4.1. Primary and Secondary Diseases
4.8.4.2. Classification According to Brain Involvement
4.8.5. Degenerative Diseases: Language Difficulties
4.8.5.1. Associated Cognitive and Linguistic Difficulties
4.8.5.2. Impact on Memory and Communication Skills
4.8.6. Other Associated Difficulties: Apraxia and Agnosia
4.8.6.1. Definition of Apraxia
4.8.6.2. Impact of Agnosias on the Recognition and Use of Language

4.8.7. Relevant Research
4.8.7.1. Treatment and Rehabilitation Strategies
4.9. Assessment and Diagnosis in Language Disorders
4.9.1. Introduction and Objectives
4.9.1.1. Importance of Early Assessment
4.9.1.2. Objectives of a Comprehensive Diagnostic Assessment
4.9.2. Assessment Methods
4.9.2.1. Standardized Tests
4.9.2.2. Clinical and Observational Assessment
4.9.3. Diagnostic Tools
4.9.3.1. Questionnaires and Interviews
4.9.3.2. Specific Tests for Developmental and Acquired Disorders
4.9.4. Interpretation of the Results
4.9.4.1. How to Integrate the Results into an Intervention Plan
4.10. Intervention Strategies for Language Disorders
4.10.1. Introduction and Objectives
4.10.1.1. Objectives of the Speech Therapy Intervention
4.10.1.2. Evidence-based Therapeutic Methods
4.10.2. Therapeutic Approaches to Developmental Disorders
4.10.2.1. Language and Cognitive Therapies
4.10.2.2. Early Intervention
4.10.3. Therapeutic Approaches to Developmental Disorders
4.10.3.1. Rehabilitation in Aphasia
4.10.3.2. Interventions in Neurodegenerative Diseases
4.10.4. Assessment of the Effectiveness of the Intervention
4.10.4.1. Measurement of Results
4.10.4.2. Adjustments and Adaptations in Treatment

Module 5. Speech Therapy Research Methods

5.1. Basic Notions of Investigation: Science and the Scientific Method
5.1.1. Definition of the Scientific Method
5.1.2. Analytical Method
5.1.3. Synthetic Method
5.1.4. Inductive Method
5.1.5. Cartesian Thought
5.1.6. Rules of the Cartesian Method
5.1.7. Methodical Doubt
5.1.8. The First Cartesian Principle
5.1.9. Induction Procedures According to J. Mill Stuart
5.2. Research Paradigms and Methods Derived from These
5.2.1. How Do Research Ideas Arise?
5.2.2. What to Research in Education?
5.2.3. Research Problem Statement
5.2.4. Background, Justification and Research Objectives
5.2.5. Theoretical Foundation
5.2.6. Hypotheses, Variables and Definition of Operational Concepts
5.2.7. Choosing a Research Design
5.2.8. Sampling in Quantitative and Qualitative Studies
5.3. The General Process of Research: Quantitative and Qualitative Focus
5.3.1. Epistemological Assumptions
5.3.2. Approach to Reality and the Object of Study
5.3.3. Subject-Object Relationship
5.3.4. Objectivity
5.3.5. Methodological Processes
5.3.6. Integration of Methods
5.4. Phases and Stages of Qualitative Research
5.4.1. Phase 1: Conceptual Phase
5.4.2. Phase 2: Planning and Design Phase
5.4.3. Phase 3: Empirical Phase
5.4.4. Phase 4: Analytical Phase
5.4.5. Phase 5: Diffusion Phase

5.5. Types of Quantitative Research
- 5.5.1. Historical Research
- 5.5.2. Correlation Research
- 5.5.3. Case Studies
- 5.5.4. "Ex Post Facto" Research of Completed Events
- 5.5.5. Quasi-Experimental Research
- 5.5.6. Experimental Research

5.6. Phases and Stages of Qualitative Research
- 5.6.1. Phase 1: Preparation Phase
- 5.6.2. Phase 2: Field Phase
- 5.6.3. Phase 3: Analytical Phase
- 5.6.4. Phase 4: Informative Phase

5.7. Types of Qualitative Research
- 5.7.1. Ethnography
- 5.7.2. Grounded Theory
- 5.7.3. Phenomenology
- 5.7.4. The Biographical Method and Life History
- 5.7.5. The Case Study
- 5.7.6. Content Analysis
- 5.7.7. Examination of Speech
- 5.7.8. Participatory Action Research

5.8. Techniques and Instruments for Collecting Quantitative Data
- 5.8.1. The Structured Interview
- 5.8.2. The Structured Questionnaire
- 5.8.3. Systematic Observation
- 5.8.4. Attitude Scales
- 5.8.5. Statistics
- 5.8.6. Secondary Sources of Information

5.9. Techniques and Instruments for Collecting Qualitative Data
- 5.9.1. Unstructured Interview
- 5.9.2. In Depth Interview
- 5.9.3. Focus Groups
- 5.9.4. Simple, Unregulated and Participant Observation
- 5.9.5. Life Stories
- 5.9.6. Diaries
- 5.9.7. Content Analysis
- 5.9.8. The Ethnographic Method

5.10. Data Quality Control
- 5.10.1. Requirements for a Measuring Instrument
- 5.10.2. Processing and Analysis of Quantitative Data
- 5.10.3. Processing and Analysis of Qualitative Data

Module 6. Psychometric Techniques in Speech Therapy

6.1. Introduction to Psychometry
- 6.1.1. Definition and Purpose of Psychometrics in the Context of Speech Therapy
  - 6.1.1.2. Fundamental Objectives in the Study of Psychometrics
- 6.1.2. The Measurement of the Psychological
  - 6.1.2.1. Main Methods Used in the Measurement of Psychological Phenomena
  - 6.1.2.2. Comparison between Objective and Subjective Measures
- 6.1.3. Definition of Psychometrics and Historical Background
  - 6.1.3.1. Brief History of the Development of Psychometrics
  - 6.1.3.2. Modern Definition of Psychometrics and its Role in the Social Sciences
- 6.1.4. Psychological Tests: Definition, Classification and Uses
  - 6.1.4.1. Typology of Psychological Tests
  - 6.1.4.2. Uses and Applications in Psychological, Educational and Occupational Assessment

6.2. Test Construction Process
- 6.2.1. Definition and Key Steps in the Psychological Test Construction Process
  - 6.2.1.1. Importance of Rigor and Validity in Test Construction
- 6.2.2. Phases for the Construction of a Test
  - 6.2.2.1. Initial Stages: Definition of the Construct and Objective of the Test
  - 6.2.2.2. Item Development and Validation, as well as the Pilot Test

6.2.3. Guidelines for Writing Items
6.2.3.1. Recommendations to Ensure Clarity and Objectivity in the Formulation of Questions
6.2.3.2. Methods to Avoid Bias and Ensure the Relevance of the Items
6.2.4. Introduction to the Use of Software for Psychometric Analysis
6.2.4.1. Introduction to the Most Common Computer Tools in Psychometric Analysis
6.2.4.2. Software Applications for the Construction and Validation of Tests
6.3. Item Analysis
6.3.1. Main Methods of Item Analysis in Psychometric Assessment
6.3.1.1. Objectives and Advantages of Detailed Analysis of Test Items
6.3.2. Descriptive Statistics
6.3.2.1. Key Concepts: Mean, Standard Deviation, Skewness and Kurtosis in Items
6.3.2.2. Application of Descriptive Statistics to Understand the Distribution of Responses
6.3.3. Discrimination Indices
6.3.3.1. Definition and Calculation of the Discrimination Index of an Item
6.3.3.2. Importance of the Discrimination Index in the Assessment of the Quality of the Test
6.3.4. Validity Index
6.3.4.1. Methods for Calculating and Assessing the Validity of Test Items
6.3.4.2. Relationship between the Validity Index and the Predictive Efficacy of the Test
6.3.5. Analysis of Incorrect Options in Multiple Choice Items
6.3.5.1. Strategies for Identifying and Correcting Possible Biases in Incorrect Options
6.3.5.2. Techniques to Improve the Quality and Discrimination of Answer Options
6.3.6. Correction of the Effects of Chance in Multiple-Choice Items
6.3.6.1. Statistical Methods for Adjusting the Influence of Chance on the Results of Multiple-Choice Items
6.3.6.2. Techniques for Improving the Reliability of Items in Chance Situations
6.3.7. Item Analysis with Jamovi
6.3.7.1. Specific Procedures for Performing the Psychometric Analysis of Items Using Jamovi Software
6.3.7.2. Practical Application in the Correction and Improvement of a Test
6.4. Classical Test Theory
6.4.1. Classical Test Theory (CTT)
6.4.1.1. Main Objectives of CTT in Psychometrics
6.4.2. Assumptions of the Classical Linear Model
6.4.2.1. Explanation of the Assumptions Underlying Classical Theory, Such as Linearity and Homogeneity
6.4.2.2. Implications of these Assumptions in Test Design
6.4.3. Reliability Coefficient and Parallel Forms
6.4.3.1. Definition and Calculation of the Reliability Coefficient
6.4.3.2. Comparison between Different Reliability Estimation Methods: Test-Retest, Parallel Forms, Chronbach's Alpha, Inter-Item and Inter-Rater Correlation Index
6.4.4. Reliability of Scores in a Long Test (Many Items)
6.4.4.1. Effects of Test Length on the Reliability of Scores Obtained
6.4.4.2. Methods for Optimizing Reliability Without Excessively Increasing Test Length
6.5. Reliability of Score
6.5.1. Definition of Reliability in the Psychometric Context and its Importance in Test Assessment
6.5.1.1. Objectives of Studying the Reliability of Scores Obtained
6.5.2. Conceptualization of Reliability
6.5.2.1. Distinction between the Different Types of Reliability: Stability, Internal Consistency and Equivalence
6.5.2.2. Importance of Reliability in the Accuracy of Psychological Assessments
6.5.3. Approaches to Reliability
6.5.3.1. Methods and Models for Assessing the Reliability of a Test
6.5.3.2. Different Statistical Approaches: Cronbach's Alpha Coefficient, Inter-rater
6.5.4. Typical Error of Measurement: Calculation and Applications
6.5.4.1. Definition and Calculation of the Typical Error of Measurement
6.5.4.2. Practical Applications of Error in the Interpretation of Test Scores
6.5.5. Estimating Reliability with Jamovi
6.5.5.1. Techniques and Tools in Jamovi for Calculating the Reliability of Test Scores
6.5.5.2. Practical Application of the Software in Reliability Estimation

6.6. Evidence of Validity I
- 6.6.1. Definition of Validity and its Importance in Psychometric Asessment
  - 6.6.1.2. Objectives of Validity Analysis in Test Construction
- 6.6.2. Conceptualization of Validity
  - 6.6.2.1. Distinction between Content, Criterion and Construct Validity
  - 6.6.2.2. The Importance of Adequate Validity for the Utility of the Test
- 6.6.3. Evidence Based on Test Content
  - 6.6.3.1. Methods for Obtaining Evidence of Validity Based on the Content of the Items
  - 6.6.3.2. Procedures for Ensuring that the Content of the Test Adequately Represents the Construct Being Measured
- 6.6.4. Evidence Based on Response Processes
  - 6.6.4.1. How Validity is Analyzed Based on the Cognitive and Psychological Processes Involved in Responses
  - 6.6.4.2. Techniques for Obtaining Evidence through the Observation of Responses
- 6.6.5. Evidence-based Consequences of Test Application
  - 6.6.5.1. Assessment of the Consequences of Decisions Made Based on the Test Results
  - 6.6.5.2. Importance of Examining the Long-Term Effects of Test Application

6.7. Evidence of Validity II
- 6.7.1. Specific Objectives in the Identification of Validity
  - 6.7.1.1. Determining Content Validity
  - 6.7.1.2. Determining Criteria Validity
  - 6.7.1.3. Determining Construct Validity
  - 6.7.1.4. Determining Convergent Validity
- 6.7.2. The Internal Structure of the Test
  - 6.7.2.1. Evaluation of the Internal Structure of the Test Using Statistical Methods Such as Factor Analysis
  - 6.7.2.2. The Relationship Between the Structure of the Test and the Construct It Measures
- 6.7.3. The Relationship With Other Variables
  - 6.7.3.1. Methods for Establishing Validity Through the Relationship With External Variables
  - 6.7.3.2. Types of Relationships: Convergent, Discriminant and Predictive
- 6.7.4. Factors Affecting Validity Coefficients
  - 6.7.4.1. Analysis of the Factors that Can Influence the Magnitude of the Validity Coefficients
  - 6.7.4.2. Strategies for Improving the Validity of the Test

6.8. Introduction to Exploratory Factor Analysis
- 6.8.1. Exploratory Factor Analysis (EFA) Technique
  - 6.8.1.1. Objectives and Advantages of Using EFA in Psychometrics
- 6.8.2. Basic Concepts
  - 6.8.2.1. Definitions: Factors, Factor Loadings, Explained Variance
  - 6.8.2.2. Purpose and Use of EFA in Reducing Dimensions
- 6.8.3. Steps in Exploratory Factor Analysis
  - 6.8.3.1. Detailed Description of the Steps to Follow in Exploratory Factor Analysis
  - 6.8.3.2. Methods for Determining the Number of Factors and Factor Rotation
- 6.8.4. Recommendations and Considerations
  - 6.8.4.1. Best Practices and Precautions to Keep in Mind When Performing an EFA
  - 6.8.4.2. Limitations of the EFA and How to Interpret It Correctly

6.9. Interpretation of Scores
- 6.9.1. Definition of Methods for Interpreting Scores in Psychometric Tests
  - 6.9.1.1. Objectives and Fundamental Principles in the Interpretation of Scores
- 6.9.2. Interpretations Referring to Norms
  - 6.9.2.1. Comparison of Scores with Norms based on Representative Samples
  - 6.9.2.2. Types of Norms: Percentage Norms, Standard Scoring Norms, Scales
- 6.9.3. Interpretations Referring to the Criterion
  - 6.9.3.1. Definition and Use of Criteria for Interpreting Test Scores
  - 6.9.3.2. Methods for Linking Scores to Specific Performance Indicators: Spearman's Correlation

6.10. Item Response Theory
- 6.10.1. Definition and Objectives of Item Response Theory (IRT)
  - 6.10.1.1. Key Differences Between IRT and Classical Test Theory
- 6.10.2. Advantages of Item Response Theory over Classical Test Theory
  - 6.10.2.1. Comparison Between the Two Theories and Their Respective Applications
  - 6.10.2.2. Benefits of IRT in Terms of Accuracy and Adaptability

6.10.3. Basic Concepts
6.10.3.1. Explanation of the Fundamental Concepts in IRT: Response Probability, Discrimination, Difficulty
6.10.4. Assumptions
6.10.4.1. Fundamental Assumptions in the Application of IRT
6.10.4.2. Implications of these Assumptions for the Validity and Reliability of the Tests
6.10.5. Models for Dichotomous Items
6.10.5.1. Description of IRT Models for Items with Binary Responses (Right/Wrong)
6.10.5.2. Methods for Estimating Parameters in Dichotomous Models
6.10.6. Precision of IRT Scores
6.10.6.1. Assessing the Reliability of Scores Using IRT
6.10.6.2. Factors Affecting the Precision of Estimates
6.10.7. TRI Applications
6.10.7.1. IRT Applications in Adaptive Testing, Item Analysis and Accurate Assessment of Competence

Module 7. Speech and Language Assessment and Diagnosis

7.1. Basic Concepts of Assessment and Diagnosis
7.1.1. Introduction and Objectives
7.1.1.1. Definition of Assessment and Diagnostics in Speech Therapy
7.1.1.2. Purpose of Assessment in the Field of Speech Therapy
7.1.2. Why Assess?
7.1.2.1. Identification of Language Disorders
7.1.2.2. Planning of Therapeutic Intervention
7.1.2.3. Monitoring of Progress and Adjustment of Strategies
7.1.3. What to Assess?
7.1.3.1. Oral Language Assessment
7.1.3.2. Reading and Writing Assessment
7.1.3.3. Assessment of Pragmatic Skills
7.1.4. How Do They Assess?
7.1.4.1. Qualitative and Quantitative Methods
7.1.4.2. Observation Techniques and Standardized Tests
7.1.4.3. Assessment of Results and Decision Making

7.1.5. The Evolution of Speech-Language Disorder Assessment
7.1.5.1. History of Speech-Language Disorder Assessment
7.1.5.2. Advances in Diagnostic Tools and Approaches
7.1.5.3. Current Trends in Speech and Language Therapy Assessment
7.2. Recording Tools for Language Assessment
7.2.1. Introduction and Objectives
7.2.1.1. Importance of Recording Tools
7.2.1.2. Diagnostic Function of Tools in Speech Therapy
7.2.2. The Clinical Interview
7.2.2.1. Interview Techniques in Speech Therapy
7.2.2.2. The Role of Parents, Educators and Other Involved Parties
7.2.2.3. Key Questions to Obtain Relevant Information
7.2.3. Language Observation and Recording
7.2.3.1. Methods for Observing Language in Different Contexts
7.2.3.2. Tools for the Precise Recording of Language
7.2.3.3. Aspects to be Assessed: Fluency, Articulation, Tone, etc.
7.2.4. Standardized Tests for the Assessment of the Phonetic-Phonological Component
7.2.4.1. Tools for the Assessment of Articulation and Sounds
7.2.4.2. Tests to Assess Auditory Perception and Discrimination
7.2.5. Standardized Tests for the Assessment of the Morphosyntactic Component
7.2.5.1. Assessment of Grammatical Structure
7.2.5.2. Sentence Analysis and Morphology
7.2.5.3. Tools for Syntax and its Assessment
7.2.6. Standardized Tests to Assess the Lexical-Semantic Component
7.2.6.1. Vocabulary and Word Comprehension Tests
7.2.6.2. Assessment of Semantics and Word Meaning
7.2.6.3. Lexical Development Measurement Tools
7.2.7. Standardized Tests to Assess the Pragmatic Component
7.2.7.1. Assessment of Language Use in Social Contexts
7.2.7.2. Tools for Measuring Communicative Competence
7.2.7.3. Assessment of Coherence and Relevance of Interactions
7.2.8. Standardized Batteries for Assessing Oral Language
7.2.8.1. Comprehensive Tests for Assessing Various Aspects of Oral Language
7.2.8.2. Assessment of Fluency and Coherence of Speech
7.2.9. Standardized Tests to Assess Literacy
7.2.9.1. Assessment of Word Decoding and Reading Aloud
7.2.9.2. Reading Comprehension Assessment
7.2.9.3. Writing Tests and Analysis
7.2.10. Other Assessment Tests
7.2.10.1. Additional Cognitive Development Tests
7.2.10.2. Assessment of Other Skills Affecting Language
7.3. Assessment of Speech Sound Disorders (SSDs)
7.3.1. Characteristics and Types of Speech Sound Disorders
7.3.1.1. Importance of Assessing SSDs in Speech Therapy Diagnosis
7.3.2. Assessment of Articulation
7.3.2.1. Methods for Assessing Sound Accuracy
7.3.2.2. Specific Tests for Articulation Disorders
7.3.2.3. Relationship between Articulation and Other Linguistic Disorders
7.3.3. Orofacial Examination
7.3.3.1. Orofacial Motor Function Assessment
7.3.3.2. Muscle Analysis and its Relationship with Speech Disorders
7.3.3.3. Orofacial Examination Techniques
7.3.4. Assessment of Auditory Discrimination
7.3.4.1. Tools for Measuring the Ability to Discriminate Sounds
7.3.4.2. The importance of Auditory Discrimination in Speech
7.3.4.3. Assessment of Auditory Perception in Children and Adults
7.3.5. Assessment of Phonological Awareness
7.3.5.1. Assessment of the Ability to Manipulate and Distinguish Sounds
7.3.5.2. Relationship between Phonological Awareness and Reading/Writing
7.3.5.3. Specific Tests to Assess Phonological Awareness

7.4. Assessment of Acquired Neurological Disorders and Neurodegenerative Diseases
- 7.4.1. Characteristics of Acquired Neurological Disorders
  - 7.4.1.1. Impact of Brain Lesions on Language
  - 7.4.1.2. Impact of Brain Lesions on Speech
- 7.4.2. Assessment of Oral Production
  - 7.4.2.1. Methods for Assessing Oral Expression in Neurological Patients
  - 7.4.2.2. Tests for Assessing Speech in Adults
- 7.4.3. Assessment of Oral Comprehension
  - 7.4.3.1. Tools for Assessing Comprehension of Oral Messages
  - 7.4.3.2. Assessment of Difficulties in Auditory Processing
- 7.4.4. Assessment of Reading (Written Comprehension)
  - 7.4.4.1. Methods for Assessing Comprehension of Written Texts
  - 7.4.4.2. Assessment of Reading Comprehension Difficulties in Neurological Patients
- 7.4.5. Assessment of Writing (Written Expression)
  - 7.4.5.1. Assessment of the Ability to Write Coherent Texts
  - 7.4.5.2. Tools for Assessing Writing-Related Disorders
- 7.4.6. Screening Tests
  - 7.4.6.1. Rapid Tests for Neurological Disorders
  - 7.4.6.2. Importance of Screening for Early Intervention

7.5. Assessment of Neurodevelopmental Disorders and Sociocultural Deprivation Disorders
- 7.5.1. Characteristics of Language Development Disorders
  - 7.5.1.1. Neurodevelopmental and Language Disorders
  - 7.5.1.2. Impact of Sociocultural Deprivation on Language Development
- 7.5.2. Assessment of Language Reception
  - 7.5.2.1. Assessment of Spoken Language Comprehension
  - 7.5.2.2. Tools for Measuring Language Perception
- 7.5.3. Assessment of Language Expression
  - 7.5.3.1. Methods for Assessing Verbal Production in Children and Adolescents
  - 7.5.3.2. Oral and Written Expression Tests in Neurodevelopmental Disorders
  - 7.5.3.3. Speech Assessment in Children and Adolescents

7.6. Elaboration of Speech Therapy Report for the Assessment of Oral Language
- 7.6.1. Speech Therapy Report
  - 7.6.1.1. Importance of the Speech Therapy Report in the Intervention Process
  - 7.6.1.2. Objectives of the Report in Diagnosis and Treatment
- 7.6.2. Why Is a Report Necessary?
  - 7.6.2.1. Role of the Report in the Monitoring and Adjustment of Therapy
  - 7.6.2.2. Communication of Results to Other Professionals and Family
- 7.6.3. Parts of an Assessment Report
  - 7.6.3.1. Structure of the Report: Background, Diagnosis, Recommendations
  - 7.6.3.2. Clear and Objective Writing of the Report
- 7.6.4. Report Models
  - 7.6.4.1. Examples of Speech Therapy Reports in Different Contexts
  - 7.6.4.2. Comparison of Different Approaches and Report Templates

7.7. Reading Assessment
- 7.7.1. The Reading Assessment Process
  - 7.7.1.1. Reading Assessment for Children with Learning Difficulties
  - 7.7.1.2. Objects of Reading Assessment
- 7.7.2. Assessment of Letter Identification
  - 7.7.2.1. Methods for Assessing Letter and Sound Recognition
  - 7.7.2.2. Tools for Measuring Phonological Skills
- 7.7.3. Assessment of Lexical Processing
  - 7.7.3.1. Assessment of Word Recognition and Access
  - 7.7.3.2. Tools for Measuring Vocabulary and its Use
- 7.7.4. Assessment of Syntactic Processing
  - 7.7.4.1. Assessment of Comprehension of Grammatical Structures in Reading
  - 7.7.4.2. Methods for Measuring Syntax in Written Texts
- 7.7.5. Semantic Processing Assessment
  - 7.7.5.1. Tools for Measuring Meaning Comprehension
  - 7.7.5.2. Inference and Reading Comprehension Assessment

7.8. Writing Assessment
- 7.8.1. The Writing Assessment Process
  - 7.8.1.1. Writing Assessment in Children with Learning Difficulties
  - 7.8.1.2. Objectives of Writing Assessment
- 7.8.2. Message Planning Assessment
  - 7.8.2.1. Methods for Assessing the Organization and Structure of the Written Message
  - 7.8.2.2. Tools for Measuring Writing Coherence
- 7.8.3. Assessment of Syntactic Processes
  - 7.8.3.1. Assessment of Syntax in Written Production
  - 7.8.3.2. Tools for Measuring Grammar and Sentence Complexity
- 7.8.4. Assessment of Motor Processes
  - 7.8.4.1. Assessment of Motor Coordination for Writing
  - 7.8.4.2. Methods for Assessing Fine Motor Skills and their Impact on Writing

7.9. Language Assessment in Learning Difficulties in Mathematics
- 7.9.1. Mathematics and Language
  - 7.9.1.1. Relationship between Language and Mathematics in Learning
  - 7.9.1.2. Objectives of Assessment in the Mathematical Context
- 7.9.2. Assessment of Counting and Numeration
  - 7.9.2.1. Methods for Assessing the Ability to Count and Identify Numbers
  - 7.9.2.2. Measurement Tools for Quantity Identification
- 7.9.3. Assessment of Coding and Comprehension of the Numerical System
  - 7.9.3.1. Assessment of the Ability to Represent and Manipulate Numbers
  - 7.9.3.2. Tools for Measuring Comprehension of Numeration
- 7.9.4. Assessment of Arithmetic Knowledge and Problem Understanding
  - 7.9.4.1. Methods for Assessing Arithmetic Skills
  - 7.9.4.2. Assessment of Mathematical Problem-Solving Skills

7.10. Assessment of Language Disorders in Childhood and Adolescence
- 7.10.1. Introduction and Objectives
  - 7.10.1.1. Characteristics of Language Disorders in Childhood and Adolescence
  - 7.10.1.2. Importance of Early Detection
- 7.10.2. Identification of Language Disorders in Childhood
  - 7.10.2.1. Early Signs of Language Difficulties
  - 7.10.2.2. Assessment of Expressive and Receptive Disorders in Childhood
- 7.10.3. Assessment of Language Disorders in Adolescents
  - 7.10.3.1. Language Difficulties in Adolescents and Their Impact on Academic and Social Performance
  - 7.10.3.2. Assessment of Language Comprehension and Expression in Adolescence
- 7.10.4. Specific Assessment Instruments and Methods
  - 7.10.4.1. Use of Interviews, Standardized Tests and Direct Observation
  - 7.10.4.2. Assessment of Cognitive, Emotional and Social Aspects
- 7.10.5. Early Intervention and Therapy Planning
  - 7.10.5.1. Therapeutic Strategies for Early Intervention
  - 7.10.5.2. Planning Speech and Language Intervention Based on Assessment Results

Module 8. Intervention in Written Language Disorders

8.1. Processes Involved in Reading
- 8.1.1. Reading as a Communicative and Socializing Process of the Human Being
  - 8.1.1.1. Purposes of Reading Instruction
  - 8.1.1.2. Relationship between Objectives and Reading Skills
- 8.1.2. The Concept of Reading
  - 8.1.2.1. Definitions of Reading
  - 8.1.2.2. Fundamental Components of the Reading Act
  - 8.1.2.3. Differences between Comprehensive and Mechanical Reading
- 8.1.3. The Reading System
  - 8.1.3.1. Elements that Make up the Reading System
  - 8.1.3.2. Theoretical Models that Explain the Reading System
  - 8.1.3.3. Connections between the Visual and Cognitive Systems
- 8.1.4. Psychological Processes in Reading
  - 8.1.4.1. Perceptive Processes
  - 8.1.4.2. Cognitive and Linguistic Processes
  - 8.1.4.3. Processes of Comprehension and Memory
- 8.1.5. Factors and Stages in Learning to Read
  - 8.1.5.1. Individual Factors: Biological, Psychological and Sociocultural
  - 8.1.5.2. Stages of Reading Development: Pre-reading, Initial Learning and Consolidation

8.1.6. Prerequisites for Teaching Reading
8.1.6.1. Necessary Linguistic Development
8.1.6.2. Neuropsychological Maturation
8.1.6.3. Motivational and Emotional Factors
8.1.6.4. Social Factors
8.1.7. Disturbances in the Reading System
8.1.7.1. Phonological Disturbances
8.1.7.2. Semantic and Comprehension Disturbances
8.1.7.3. Functional Disturbances Related to Sensory Deficits

8.2. Processes Involved in Writing
8.2.1. Writing and Communication
8.2.1.1. Purposes of Writing Learning
8.2.1.2. Importance of Objectives in the Teaching Process
8.2.2. The Concept of Writing
8.2.2.1. Definitions of Writing
8.2.2.2. Differences between Handwriting and Typing
8.2.2.3. Writing as a System of Communication
8.2.3. The Writing System
8.2.3.1. Components of the Writing System
8.2.3.2. Theoretical Models of Written Production
8.2.3.3. Cognitive Functions Involved in Writing
8.2.4. Relationships between Reading and Writing
8.2.4.1. Influences between Reading and Writing
8.2.4.2. Differences in the Cognitive Processes Involved
8.2.5. Psychological Processes Involved in Writing
8.2.5.1. Planning the Text
8.2.5.2. Writing the Text
8.2.5.3. Revising and Editing the Text
8.2.6. Stages in Learning to Write: Psychogenesis of Written Language
8.2.6.1. Undifferentiated Writing Stage
8.2.6.2. Differentiated Writing Stage
8.2.6.3. Syllabic Stage
8.2.6.4. Syllabic-Alphabetic Stage
8.2.6.5. Alphabetic Stage

8.3. Dyslexia
8.3.1. Definition of Specific Reading Difficulties
8.3.1.2. Objectives in the Identification and Management of Dyslexia
8.3.2. Concept of Dyslexia
8.3.2.1. General Characterization of Dyslexia
8.3.2.2. Differentiation between Evolutive and Acquired Dyslexia
8.3.3. Explanatory Theories
8.3.3.1. Phonological Models
8.3.3.2. Visual and Rapid Processing Models
8.3.3.3. Multicausal Approaches
8.3.4. Manifestations and Symptoms
8.3.4.1. Difficulties in Phonological Decoding
8.3.4.2. Problems with Reading Fluency
8.3.4.3. Common Errors in Comprehension
8.3.5. Characterization and Types
8.3.5.1. Phonological Dyslexia
8.3.5.2. Superficial Dyslexia
8.3.5.3. Mixed or Deep Dyslexia

8.4. Assessment of Learning Difficulties in Reading
8.4.1. Importance of Assessment in Reading Difficulties
8.4.1.1. Objectives of Reading Assessment
8.4.2. Diagnostic Criteria and Classification Systems
8.4.2.1. Criteria for Differentiating Reading Difficulties from Other Disorders
8.4.2.2. International Classification Systems (DSM, ICD)
8.4.3. The Assessment of Skills Related to Reading
8.4.3.1. Assessment of Phonological Awareness
8.4.3.2. Reading Fluency Assessment
8.4.3.3. Reading Comprehension Assessment
8.4.4. Reading Assessment
8.4.4.1. Qualitative and Quantitative Methods
8.4.4.2. Observation in Natural Contexts
8.4.5. Standardized Reading Assessment Tests and Batteries
8.4.5.1. Screening Tests
8.4.5.2. Specific Reading Tests
8.4.5.3. Interpretation of Results

8.5. Intervention in Reading Disorders
- 8.5.1. Basis for Effective Intervention
  - 8.5.1.1. Specific Objectives in the Intervention of Dyslexia
- 8.5.2. Intervention Methods
  - 8.5.2.1. Phonological Methods
  - 8.5.2.2. Multisensory Methods
  - 8.5.2.3. Technology-Assisted Methods
- 8.5.3. Areas of Intervention in Dyslexia
  - 8.5.3.1. Intervention in the Classroom
  - 8.5.3.2. Intervention At Home
  - 8.5.3.3. Intervention in Clinical Contexts
- 8.5.4. Intervention Programs
  - 8.5.4.1. Design of Specific Programs
  - 8.5.4.2. Examples of Recognized Programs
- 8.5.5. Materials for Working with Dyslexia
  - 8.5.5.1. Printed Resources: Guides and Books
  - 8.5.5.2. Digital Tools and Applications

8.6. Dysgraphia
- 8.6.1. Relevance of the Study of Dysgraphia
  - 8.6.1.1. Intervention and Diagnostic Objectives
- 8.6.2. Concept of Dysgraphia
  - 8.6.2.1. Clinical and Psychopedagogical Definitions
  - 8.6.2.2. Differentiation from Other Related Disorders
- 8.6.3. Etiology of Dysgraphia
  - 8.6.3.1. Biological and Neurological Factors
  - 8.6.3.2. Psychological and Educational Factors
- 8.6.4. Characterization and Types of Dysgraphia
  - 8.6.4.1. Motor Dysgraphia
  - 8.6.4.2. Specific Dysgraphia
  - 8.6.4.3. Dysgraphia Associated with Other Disorders
  - 8.6.4.4. Mixed Dysgraphia

8.7. Assessment of Learning Difficulties in Writing
- 8.7.1. Introduction and Objectives
  - 8.7.1.1. Basis for Writing Assessment
  - 8.7.1.2. Specific Objectives of Writing Assessment
- 8.7.2. Diagnostic Criteria and Classification Systems (DSM, CIE)
  - 8.7.2.1. Classification of Writing Difficulties
  - 8.7.2.2. Differential Diagnosis with Other Learning Problems
- 8.7.3. Writing Assessment
  - 8.7.3.1. Quantitative and Qualitative Methods of Writing Analysis
  - 8.7.3.2. Standardized Writing Tests
- 8.7.4. Standardized Writing Assessment Tests and Batteries
  - 8.7.4.1. Initial Assessment Tools
  - 8.7.4.2. Specific Tests for Diagnosing Dysgraphia

8.8. Intervention in Writing Difficulties
- 8.8.1. General Approaches to Dysgraphia Intervention
  - 8.8.1.1. Specific Treatment Objectives
- 8.8.2. Planning Process Intervention
  - 8.8.2.1. Techniques for Organizing Ideas
  - 8.8.2.2. Strategies for Structuring Texts: Macro and Microstructure
- 8.8.3. Intervention of Syntactic Processes
  - 8.8.3.1. Syntactic Awareness
  - 8.8.3.2. Textual Coherence
- 8.8.4. Intervention of Lexical Processes
  - 8.8.4.1. Development of Active Vocabulary
  - 8.8.4.2. Development of Visual Word Memory
- 8.8.5. Speech Therapy Intervention of Motor Processes
  - 8.8.5.1. Exercises to Improve Fine Motor Skills
  - 8.8.5.2. Strategies for Adapting Writing Tools
- 8.8.6. Dysgraphia Intervention Programs
  - 8.8.6.1. Program Design and Development
  - 8.8.6.2. Examples of Recognized interventions

8.9. Repercussions of Reading and Writing Disorders in the School Environment
- 8.9.1. Impact of Difficulties in the Classroom
  - 8.9.1.1. Objectives of Psychoeducational Intervention
- 8.9.2. Identification of Specific Learning Difficulties
  - 8.9.2.1. Early Detection Methods
  - 8.9.2.2. Tools for Evaluating the School Environment
- 8.9.3. Interdisciplinary Intervention for Children with Dyslexia and/or Other Specific Learning Difficulties
  - 8.9.3.1. Collaborative Strategies of the Psycho-pedagogical Support Team
  - 8.9.3.2. Collaboration between Teachers and Families

8.10. Technological Innovations in the Intervention of Reading and Writing Disorders
- 8.10.1. Importance of Technology in Intervention
  - 8.10.1.1. Objectives of Technological Integration in Speech Therapy Intervention
- 8.10.2. Use of Assistive Technologies in Assessment and Intervention
  - 8.10.2.1. Support Devices for Reading
  - 8.10.2.2. Digital Tools for Writing
- 8.10.3. Digital Applications and Platforms for the Development of Literacy
  - 8.10.3.1. Apps to Improve Reading Fluency
  - 8.10.3.2. Platforms for Interactive Writing
- 8.10.4. Gamification and Virtual Reality as Learning Tools
  - 8.10.4.1. Educational Games Focused on Literacy
  - 8.10.4.2. Virtual Reality to Simulate Learning Environments
- 8.10.5. Assessment of the Effectiveness of Technology Tools in Learning
  - 8.10.5.1. Analysis of Results Obtained with Technology
  - 8.10.5.2. Comparison with Traditional Methods
- 8.10.6. Ethical Challenges and Considerations in the Use of Technologies in Speech Therapy Intervention
  - 8.10.6.1. Privacy of Student Data
  - 8.10.6.2. Equity in Access to Technology Resources

Module 9. Speech Therapy Intervention in Oral Language Disorders

9.1. Introduction to the Intervention of Oral Language in Neurodevelopmental Disorders
- 9.1.1. Theoretical Approach to Neurodevelopmental Disorders
  - 9.1.1.1. Concept and Classification of Neurodevelopmental Disorders
  - 9.1.1.2. Associated Biological and Genetic Factors
  - 9.1.1.3. Diagnostic Approaches to Neurodevelopmental Disorders
  - 9.1.1.4. Implications of Neurodevelopment on Language and Cognition
- 9.1.2. Communication Disorders
  - 9.1.2.1. Definition and Types of Communication Disorders
  - 9.1.2.2. Speech Disorders vs. Language Disorders
  - 9.1.2.3. Impact of Communication Disorders on Daily Life
  - 9.1.2.4. Relationship between Communication Disorders and Neurodevelopment
- 9.1.3. Autism Spectrum Disorders (ASD)
  - 9.1.3.1. Main Characteristics of ASD
  - 9.1.3.2. Causes and Risk Factors of ASD
  - 9.1.3.3. Diagnosis and Assessment of ASD
  - 9.1.3.4. Impact of ASD on Social Communication Skills
- 9.1.4. Attention Deficit Hyperactivity Disorder (ADHD)
  - 9.1.4.1. Definition and Subtypes of ADHD
  - 9.1.4.2. Causes and Factors Associated with ADHD
  - 9.1.4.3. Assessment and Diagnosis of ADHD
  - 9.1.4.4. Consequences of ADHD on Language Development
- 9.1.5. Intellectual Development Disorders (IDD)
  - 9.1.5.1. Definition and Classification of IDD
  - 9.1.5.2. Diagnosis of IDD and Psycho-Educational Assessment
  - 9.1.5.3. Language Characteristics in People with IDD
  - 9.1.5.4. Impact of IDD on Social Interaction and Communication

9.2. Intervention in Language Development Disorder (SLD/DLD)
- 9.2.1. Definition and Characteristics of SLD/DLD
  - 9.2.1.1. Risk Factors and Causes of SLD/DLD
  - 9.2.1.2. Importance of Early Intervention
  - 9.2.1.3. General Objectives of Intervention in SLD/DLD

9.2.2. Planning and Objectives of Intervention
- 9.2.2.1. Initial Assessment and Setting of Therapeutic Objectives
- 9.2.2.2. Adaptation of Objectives According to the Patient's Profile
- 9.2.2.3. Planning of Sessions and Timing
- 9.2.2.4. Evaluation of Progress and Adjustments to the Intervention

9.2.3. General Intervention Strategies and Techniques
- 9.2.3.1. Approaches Based on the Ecological Model
- 9.2.3.2. Stimulation Techniques and Positive Reinforcement
- 9.2.3.3. Use of Visual Materials and Technological Aids
- 9.2.3.4. Play Therapies and Their Applicability in SLD/DLD

9.2.4. Early Language Intervention: Late Talkers
- 9.2.4.1. Early Identification of Late Talkers
- 9.2.4.2. Specific Strategies for Late Talkers
- 9.2.4.3. Implications of Early Intervention in Language Development
- 9.2.4.4. Collaboration with the Family and the School Environment

9.2.5. Intervention in the Phonetic-Phonological Dimension
- 9.2.5.1. Techniques to Improve Sound Production
- 9.2.5.2. Addressing Phonological Disorders
- 9.2.5.3. Use of Auditory Discrimination in Intervention
- 9.2.5.4. Activities to Promote Phonological Awareness

9.2.6. Intervention in the Morphosyntactic Dimension
- 9.2.6.1. Stimulation of Grammatical Structures in SLD/DLD
- 9.2.6.2. Techniques to Improve Morphosyntactic Comprehension and Production
- 9.2.6.3. The Role of Repetition and Expansion in Intervention
- 9.2.6.4. Assessment and Adjustment of Morphosyntactic Objectives

9.2.7. Intervention in the Lexical-Semantic Dimension
- 9.2.7.1. Techniques for Vocabulary Acquisition
- 9.2.7.2. Stimulation of the Appropriate Use of Words
- 9.2.7.3. The Role of Semantic Associations in the Intervention
- 9.2.7.4. Assessment of Lexical-Semantic Progress

9.2.8. Intervention on the Narrative
- 9.2.8.1. Approach of Narrative Structures in SLD/DLD
- 9.2.8.2. Techniques to Promote Cohesion and Narrative Coherence
- 9.2.8.3. Use of Storytelling Activities
- 9.2.8.4. Assessment of Narrative Development in the Patient

9.3. Speech and Language Therapist Intervention Aimed at the Family and School Environment

9.3.1. General Impact of SLD/DLD on Child Development
- 9.3.1.1. Objectives of Family and School Intervention
- 9.3.1.2. The Role of the Speech and Language Therapist in Multidisciplinary Intervention
- 9.3.1.3. Importance of Early Intervention in the Family and School Environment

9.3.2. Impact on the Family Context and Intervention at Different Stages
- 9.3.2.1. Impact of SLD/DLD on Family Dynamics
- 9.3.2.2. Intervention in Early Childhood: Parents as Key Agents
- 9.3.2.3. Approach in Middle Childhood and Early Adolescence
- 9.3.2.4. Support Strategies for Parents of Children with SLD/DLD

9.3.3. Impact and Intervention in the School Context
- 9.3.3.1. Identification of Needs in the School Context
- 9.3.3.2. Collaboration between Speech Therapists and Educators
- 9.3.3.3. Pedagogical Strategies for Students with SLD/DLD
- 9.3.3.4. School Inclusion and Curricular Adaptation for Children with SLD/DLD

9.4. Intervention in Autism Spectrum Disorder (ASD)

9.4.1. Definition of ASD and its Impact on Communication
- 9.4.1.1. General Objectives of Intervention in ASD
- 9.4.1.2. Approaches Focused on Language Development in ASD
- 9.4.1.3. The Role of the Speech and Language Therapist in ASD Intervention

9.4.2. Planning and Objectives of Intervention
- 9.4.2.1. Diagnostic Assessment in Children with ASD
- 9.4.2.2. Establishment of Personalized Therapeutic Objectives
- 9.4.2.3. Timing of the Intervention
- 9.4.2.4. Methods of Monitoring and Assessment of Progress

9.4.3. Intervention Program Strategies
9.4.3.1. Strategies Focused on Social Communication
9.4.3.2. Intervention Techniques in Social Interaction
9.4.3.3. Use of Visual Supports and Technological Aids
9.4.3.4. Therapy Based on Play and Structured Learning
9.4.4. Intervention in Verbal ASD
9.4.4.1. Addressing Difficulties in Expressive Language
9.4.4.2. Techniques to Improve Verbal Fluency
9.4.4.3. Stimulation of Verbal Comprehension
9.4.4.4. Use of Narration and Description in Verbal Development
9.4.5. Intervention in Non-Verbal ASD
9.4.5.1. Strategies for the Stimulation of Non-Verbal Communication
9.4.5.2. Use of Augmentative and Alternative Communication Systems (AACS)
9.4.5.3. Techniques for Promoting Gestural and Visual Communication
9.4.5.4. Assessment of Non-Verbal Communication in Children with ASD

9.5. Specific ASD Intervention Programs
9.5.1. Purpose of ASD Intervention Programs
9.5.1.1. Different Therapeutic Approaches to ASD
9.5.1.2. Evaluation of Intervention Programs
9.5.1.3. Specific Objectives of ASD Intervention
9.5.2. Behavioral Interventions: ABA, LOOVAS, PRT (Pivotal Response Training)
9.5.2.1. Principles of Behavior Intervention
9.5.2.2. ABA: Applied Behavior Analysis and its Effectiveness in ASD
9.5.2.3. LOOVAS: Technique Based on Behavior Modification
9.5.2.4. PRT: Core Areas Response Training and its Use in children with ASD
9.5.3. Developmental Interventions: DIR/Floortime, Relationship Development Intervention (RDI)
9.5.3.1. DIR/Floortime Approach: Interaction and Emotional Development
9.5.3.2. RDI: Intervention in Communication and Social Relationships
9.5.3.3. Integration of Developmental Strategies in Intervention
9.5.3.4. Assessment of the Effectiveness of Developmental Interventions
9.5.4. Family-Based Intervention: PACT, HANEN
9.5.4.1. PACT Model: Program of Intervention for Affective Communication
9.5.4.2. HANEN Model: Supports Communication in the Family Environment
9.5.4.3. Benefits of Family Interventions in ASD
9.5.4.4. Strategies for Training Parents and Caregivers
9.5.5. Combined Intervention: JASPER, PECS, TEACCH
9.5.5.1. JASPER: Model Based on Social Interaction and Language
9.5.5.2. PECS: Picture Exchange Communication System
9.5.5.3. TEACCH: Treatment and Education of Autistic and Related Communication Handicapped Children
9.5.5.4. Integration of Combined Programs for Comprehensive Intervention

9.6. Speech Therapy Intervention with a Family and School Approach in ASD
9.6.1. Overall Impact of ASD on the Life of the Individual
9.6.1.1. General Objectives of Intervention in the Family and School Environment
9.6.1.2. Role of the Speech Therapist in the Intervention with Children with ASD
9.6.1.3. Intervention Strategies in the Family and School Environment
9.6.2. Impact on the Family Context and Intervention
9.6.2.1. Effects of ASD on the Family Structure
9.6.2.2. Emotional Support and Psychoeducation for Families
9.6.2.3. Intervention Techniques in the Different Stages of Development
9.6.2.4. Collaboration between Speech Therapist and Family in the Therapeutic Process
9.6.3. Repercussions and Intervention in the School Context: Needs and Supports
9.6.3.1. Curricular Adaptation for Students with ASD
9.6.3.2. Strategies to Facilitate School Inclusion
9.6.3.3. Training and Support for Classroom Educators
9.6.3.4. Collaboration between Speech Therapists and Teachers in the School Environment

9.6.4. ASD in Adolescence and Adulthood
9.6.4.1. Characteristics of ASD in Adolescence
9.6.4.2. Promoting Autonomy and Self-Regulation in Adolescence
9.6.4.3. Challenges in the Transition to Adulthood
9.6.4.4. Intervention Strategies for Adults with ASD
9.6.4.5. Social and Labor Inclusion of Adults with ASD

9.7. Intervention in Attention Deficit Hyperactivity Disorder (ADHD)
9.7.1. Definition and Subtypes of ADHD
9.7.1.1. General Objectives of Intervention in ASD
9.7.1.2. Characteristics of ASD and its Impact on Communication
9.7.1.3. Assessment and Diagnosis of ADHD
9.7.2. Planning and Objectives of Intervention
9.7.2.1. Diagnostic Assessment and Setting of Objectives
9.7.2.2. TDAH-Based Intervention Methods
9.7.2.3. Intervention Timing in ADHD
9.7.2.4. Timing of Intervention in ADHD
9.7.3. Early Intervention
9.7.3.1. Early Identification of ADHD
9.7.3.2. Intervention Approaches at Pre-school Level
9.7.3.3. Impulse Control and Attention Management Techniques
9.7.3.4. Collaboration with Family and School in Early Intervention
9.7.4. Oral Language Intervention
9.7.4.1. Techniques to Improve Attention in Communication
9.7.4.2. Expressive and Comprehension Language Development Strategies
9.7.4.3. Use of Reinforcers in Language Intervention
9.7.4.4. Assessment of Progress in Oral Communication
9.7.5. Reading Intervention
9.7.5.1. Strategies to Improve Reading Attention
9.7.5.2. Approach to Difficulties in Reading Comprehension
9.7.5.3. Motivational and Reinforcement Techniques in Reading
9.7.5.4. Assessment and Monitoring of Reading Progress
9.7.6. Intervention in Writing
9.7.6.1. Development of Writing Skills in Children with ADHD
9.7.6.2. Techniques to Improve Organization and Structure in Writing
9.7.6.3. Use of Visual and Technological Aids in Writing
9.7.6.4. Assessment of Progress in Writing Skills

9.8. Speech Therapy Intervention with a Family and School Approach
9.8.1. Impact of ADHD on Daily Life
9.8.1.1. Objectives of Family and School Intervention in ADHD
9.8.1.2. The Role of the Speech Therapist in Addressing ADHD
9.8.1.3. Repercussions of ADHD on Behavior and Social Relationships
9.8.2. Impact on the Family Context and Intervention
9.8.2.1. Behavior Management Strategies at Home
9.8.2.2. Emotional Support Techniques for Parents
9.8.2.3. Collaboration With the Family in the Intervention Process
9.8.2.4. Assessment of the Family Environment in Treatment
9.8.3. Impact and Intervention in the School Context
9.8.3.1. Adapting the Classroom for Children with ADHD
9.8.3.2. Strategies for Improving Attention and Behavior in the Classroom
9.8.3.3. Supporting Educators in Addressing ADHD
9.8.3.4. Assessment and Monitoring of Strategies in the School Context
9.8.4. ADHD in Adolescence and Adulthood
9.8.4.1. Characteristics of ADHD in Adolescents
9.8.4.2. Challenges in Adolescence and Transition to Adulthood
9.8.4.3. Intervention in Social Skills and Communication in Adults with ADHD
9.8.4.4. Strategies for Adaptation in Work and Personal Life

9.9. Intervention in Intellectual Developmental Disorder (IDD)
9.9.1. Definition of Intellectual Developmental Disorder (IDD)
9.9.1.1. General Characteristics and Types of IDD
9.9.1.2. Diagnostic Assessment in IDD
9.9.1.3. General Objectives of Intervention in IDD

9.9.2. Planning and Objectives of Intervention
- 9.9.2.1. Assessment of Individual Needs in the IDD
- 9.9.2.2. Establishing of Short, Medium and Long-Term Objectives
- 9.9.2.3. Planning the Intervention According to the Level of Cognitive Development
- 9.9.2.4. Timing of the Intervention to Improve the Prognosis

9.9.3. Oral Language Intervention
- 9.9.3.1. Intervention Strategies in Oral Expression and Comprehension
- 9.9.3.2. Language Stimulation Techniques in DLD
- 9.9.3.3. Use of Visual and Gestural Resources for Communication
- 9.9.3.4. Assessment Progress in Oral Language Disorders

9.9.4. General Intervention Strategies and Techniques
- 9.9.4.1. Use of Game-based Therapies for Children with IDD
- 9.9.4.2. Structured Teaching Techniques to Improve Cognitive Skills
- 9.9.4.3. Implementation of Individualized Teaching
- 9.9.4.4. Assessment and Monitoring of Intervention in IDD

9.9.5. Speech Therapy Intervention with a Family and School Approach in ASD
- 9.9.5.1. Emotional Impact of IDD on the Family
- 9.9.5.2. Support and Training for Parents in Managing IDD
- 9.9.5.3. Strategies to Improve Family Communication
- 9.9.5.4. Teamwork with Other Professionals in the Family Context

9.9.6. Impact and Intervention in the School Context
- 9.9.6.1. Curricular Adaptations for Children with IDD
- 9.9.6.2. Strategies for the Inclusion of Students with IDD in the Classroom
- 9.9.6.3. Support for Teachers in Working with Students with IDD
- 9.9.6.4. Assessment of the Effectiveness of School Adaptations

9.9.7. IDD in Adolescence and Adulthood
- 9.9.7.1. Characteristics of IDD in Adolescence
- 9.9.7.2. Intervention in Social and Communication Skills
- 9.9.7.3. Strategies to Promote Autonomy in Adulthood
- 9.9.7.4. Social and Labor Inclusion of Adults with IDD

9.10. Comorbidities between Neurodevelopmental and Language Disorders

9.10.1. Definition of Comorbidities in Oral Language Disorders
- 9.10.1.1. Types of Common Comorbidities in Language Disorders
- 9.10.1.2. Impact of Comorbidities in Oral Language Treatment
- 9.10.1.3. Intervention Objectives for Comorbidities

9.10.2. SLD/DLD, ASD and Social Communication Disorders (Pragmatic)
- 9.10.2.1. Common Characteristics Between SLD/DLD and ASD
- 9.10.2.2. Approach of Pragmatic Disorders in SLD/DLD
- 9.10.2.3. Specific Techniques for Working on Pragmatics in ASD
- 9.10.2.4. Assessment of Intervention in Pragmatic Disorders

9.10.3. SLD/DLD and ADHD
- 9.10.3.1. Relationship between SLD/ DLD and ADHD
- 9.10.3.2. Intervention Strategies for ADHD in children with SLD/DLD
- 9.10.3.3. Impact of ADHD on Language Skills
- 9.10.3.4. Collaboration between Speech Therapist and other Professionals in Treatment

9.10.4. SLD/DLD and Other Disorders
- 9.10.4.1. Most Frequent Comorbidities in SLD/DLD
- 9.10.4.2. Therapeutic Approaches for Co-occurring Disorders
- 9.10.4.3. Assessment of Intervention in Contexts of Comorbidity
- 9.10.4.4. Coordination with Other Services for Comprehensive Treatment

Module 10. Speech Disorders: Assessment and Intervention

10.1. Concept and Classification of Speech Disorders

10.1.1. Articulation and Fluency
- 10.1.1.1. Definition of Articulation
- 10.1.1.2. Factors Affecting Fluency

10.1.2. Conceptualization of Speech Disorders
- 10.1.2.1. Speech Disorders and their Classification
- 10.1.2.2. Differences between Speech Disorders and Language Disorders

10.1.3. Classification of Speech Disorders
10.1.3.1. Articulatory Disorders
10.1.3.2. Fluency Disorders
10.1.4. Incidence of Speech Disorders
10.1.4.1. Risk Factors
10.1.4.2. Prevalence in the Child Population
10.2. Speech Sound Disorders (Dyslalias)
10.2.1. Development of Phonetics and Phonology
10.2.1.1. The Role of Phonetics in Speech Production
10.2.1.2. Relationship Between Phonology and Speech Sound Disorders
10.2.2. Definition of SSD
10.2.2.1. Functionals
10.2.2.2. Organic
10.2.3. Classification of SSD
10.2.3.1. Simple
10.2.3.2. Complex
10.2.3.3. Phonetic
10.2.3.4. Phonological
10.2.3.5. Phonetic-Phonological
10.2.4. SSD Etiology
10.2.4.1. Biological Causes
10.2.4.2. Social and Environmental Causes
10.3. Assessment of Speech Sound Disorders
10.3.1. Diagnostic Criteria for SSD
10.3.2. Assessment of Articulatory Accuracy
10.3.2.1. Assessment of Phonological Coherence
10.3.3. Phonetic Examination
10.3.3.1. Identification of Articulation Errors
10.3.3.2. Analysis of Sound Intensity and Duration
10.3.4. Phonological Examination
10.3.4.1. Assessment of Phoneme Production
10.3.4.2. Identification of Phonological Patterns
10.3.4.3. Assessment of Phonological Discrimination
10.3.5. Standardized Assessment Tools for Dyslalia
10.3.5.1. Articulation Tests
10.3.5.2. Phonological Assessment Scales
10.4. Intervention in Speech Sound Disorders
10.4.1. Establishment of Therapeutic Goals
10.4.1.1. Planning of Individual and Group Sessions
10.4.2. Activities for Intervention in Dyslalia
10.4.2.1. Auditory Discrimination Exercises
10.4.2.2. Practice in the Production of Specific Sounds
10.4.3. Resources and Materials for Intervention in Dyslalia
10.4.3.1. Use of Visual and Auditory Aids
10.4.3.2. Teaching Materials for the Correction of Dyslalia
10.5. Dysarthria
10.5.1. Neurological Bases of Speech
10.5.1.1. The Central Nervous System and its Relation to Speech
10.5.1.2. Neurological Disorders and their Impact on Verbal Production
10.5.2. Definition of Dysarthria
10.5.2.1. Spastic Dysarthria
10.5.2.2. Ataxic Dysarthria
10.5.3. Classification of Dysarthria
10.5.3.1. Flaccid Dysarthria
10.5.3.2. Rigid Dysarthria
10.5.4. Etiology of Dysarthria
10.5.4.1. Acquired Brain Lesions
10.5.4.2. Genetic Disorders

10.6. Assessment of Dysarthrias
- 10.6.1. Diagnostic Criteria for Dysarthria
  - 10.6.1.1. Identification of Motor Impairments
  - 10.6.1.2. Assessment of Speech Coordination and Accuracy
- 10.6.2. Neurophysiological Examination
  - 10.6.2.1. Basic Neurological Examinations
  - 10.6.2.2. Assessment of Oral Motor Function
- 10.6.3. Speech Examination
  - 10.6.3.1. Verbal Clarity Analysis
  - 10.6.3.2. Assessment of Speech Rate and Rhythm
- 10.6.4. Acoustic Examination
  - 10.6.4.1. Spectrographic Analysis
  - 10.6.4.2. Measurement of Voice Resonance

10.7. Intervention in Dysarthria
- 10.7.1. Design of the Intervention Plan
  - 10.7.1.1. Short- and Long-Term Therapeutic Objectives
  - 10.7.1.2. Planning Rehabilitation Sessions
- 10.7.2. Intervention in Speech Aspects
  - 10.7.2.1. Exercises to Improve Articulation
  - 10.7.2.2. Techniques to Improve Prosody
- 10.7.3. Technical Aids for Intervention
  - 10.7.3.1. Voice Amplification Devices
  - 10.7.3.2. Use of Assistive Technology in Communication
- 10.7.4. Augmentative and Alternative Communication
  - 10.7.4.1. Non-verbal Communication Systems
  - 10.7.4.2. Implementation of Communication Devices

10.8. Dysphemia
- 10.8.1. Definition of Dysphemia
  - 10.8.1.1. Dysphemia as a Rhythm Disorder
  - 10.8.1.2. Relationship between Dysphemia and Anxiety
- 10.8.2. Classification of Dysphemia
  - 10.8.2.1. Early-Onset Dysphemia
  - 10.8.2.2. Acquired Dysphemias
- 10.8.3. Etiology of Dysphemias
  - 10.8.3.1. Psychological Factors
  - 10.8.3.2. Biological Factors
- 10.8.4. Others Rhythm and Fluency Disorders
  - 10.8.4.1. Tachylalia and Bradylalia
  - 10.8.4.2. Non-pathological Disfluencies

10.9. Assessment of Dysphemia
- 10.9.1. Diagnostic Criteria for Dysphemia
  - 10.9.1.1. Identification of Speech Blockages
  - 10.9.1.2. Assessment of Associated Emotional Symptoms
- 10.9.2. Patient Assessment
  - 10.9.2.1. Clinical Interviews
  - 10.9.2.2. Specific Tests of Verbal Fluency
- 10.9.3. Assessment of Family Members
  - 10.9.3.1. Surveys on Family History
  - 10.9.3.2. Social and Family Impact Assessment
- 10.9.4. Assessment of Other Variables
  - 10.9.4.1. Emotional and Cognitive Assessment
  - 10.9.4.2. Analysis of Social Interaction

10.10. Intervention in Dysphemia
- 10.10.1. Design of the Intervention Plan
  - 10.10.1.1. Establishment of Communicative Goals
  - 10.10.1.2. Relaxation and Stress Control Techniques
- 10.10.2. Dysphemia Intervention Techniques
  - 10.10.2.1. Fluency Therapy
  - 10.10.2.2. Behavior Modification Techniques
- 10.10.3. Intervention with Families
  - 10.10.3.1. Advice for Parents and Caregivers
  - 10.10.3.2. Workshops and Family Emotional Support
- 10.10.4. Intervention Programs
  - 10.10.4.1. Group Therapy
  - 10.10.4.2. Educational and Awareness Programs

You will enjoy a variety of multimedia support resources in formats such as explanatory videos, interactive summaries or readings based on the latest scientific evidence"

04

Teaching Objectives

Through this program, the doctors will develop advanced skills to handle the most cutting-edge tools to treat Speech and Language Disorders in a holistic way.
Along the same lines, graduates will be able to apply specialized techniques, lead projects in this healthcare field and significantly optimize the quality of life of patients.

You will master the most sophisticated diagnostic techniques to assess and treat a wide range of Language Disorders"

General Objectives

- Use diagnostic tests and explain research techniques in Neuropsychology of Language
- Delve into the key concepts of Statistics for selecting samples
- Apply assessment techniques to diagnose language disorders and write speech therapy reports
- Analyze the linguistic effects derived from Neurodegenerative Diseases, such as Dementia and Multiple Sclerosis
- Define the concept of psychometrics and its relationship with Speech Therapy, understanding its application in the evaluation of Language and Communication Disorders
- Identify and diagnose Language Disorders in various contexts, considering both the clinical manifestations and the neuropsychological aspects involved
- Design and apply effective interventions for the treatment of speech disorders, adapted to the needs of the patient
- Develop skills to assess and adjust speech therapy interventions, based on scientific evidence and advances in the field

You will draw valuable lessons from solving real clinical cases in simulated learning environments"

Specific Objectives

Module 1. Neuropsychology of Language

- Analyze the neuropsychological processes involved in the production and comprehension of language
- Understand the effects of brain injuries on linguistic abilities

Module 2. Statistics

- Apply statistical tools to analyze data in speech therapy studies
- Design speech therapy research studies using appropriate statistical techniques

Module 3. Learning Disorders: Literacy

- Identify different literacy disorders and their impact on learning
- Apply intervention strategies to improve literacy skills in children with learning disabilities

Module 4. Developmental Language Disorder and Acquired Disorders

- Delve into the causes and effects of Acquired Language Development Disorders
- Create intervention plans for language disorders in both children and adults

Module 5. Speech Therapy Research Methods

- Develop skills to design and carry out research studies in the field of speech therapy
- Assess the quality and validity of research studies applied in speech therapy

Module 6. Psychometric Techniques in Speech Therapy

- Apply psychometric techniques to assess the linguistic abilities of patients
- Use psychometric tools to design personalized intervention programs

Module 7. Speech and Language Assessment and Diagnosis

- Use specific diagnostic tools to identify speech and language disorders
- Prepare detailed assessment reports for the planning of speech therapy interventions

Module 8. Intervention in Written Language Disorders

- Develop skills in speech therapy intervention for writing-related disorders
- Apply innovative therapeutic approaches to improve writing skills in children and adults

Module 9. Speech Therapy Intervention in Oral Language Disorders

- Design and apply intervention strategies to improve oral language skills in patients with disorders
- Delve into the effectiveness of interventions in the development of Oral Language

Module 10. Speech Disorders: Assessment and Intervention

- Perform a detailed assessment of speech disorders using appropriate methods and tools
- Implement therapeutic strategies for the treatment of speech disorders

05

Career Opportunities

This exclusive university program from TECH offers a unique opportunity for physicians interested in gaining an in-depth knowledge of the most innovative therapeutic interventions for the treatment of different Speech and Language Disorders. Upon completion of the syllabus, graduates will be highly qualified to successfully treat complex disorders, improving their clinical practice and broadening their professional prospects in a constantly evolving field.

Are you looking to work as a physician specialized in Language and Communication Disorders? Achieve it with this program in just 12 months"

Graduate Profile

Graduates of this program will be physicians specialized in the diagnosis and treatment of speech and language disorders. They will also be qualified to design and implement effective intervention plans and use advanced tools for assessment and monitoring. Graduates will therefore be prepared to lead innovative projects in this healthcare field, improving patients' quality of life.

You will offer personalized advice to healthcare institutions on the implementation of language rehabilitation programs.

- **Assessment and Diagnosis of Language Disorders:** Ability to conduct thorough evaluations and accurate diagnoses of speech and language disorders using specialized tools and methods to identify patients' needs
- **Effective Therapeutic Intervention:** Capacity to design and implement appropriate therapeutic intervention plans for treating speech and language disorders, improving communication and quality of life
- **Use of Psychometric Tools:** Proficiency in the application and interpretation of psychometric tools in speech therapy, supporting the assessment and monitoring of progress in the treatment of language disorders
- **Research in Speech Therapy:** Ability to design and carry out research in the field of speech therapy, using scientific methodologies to contribute to the advancement of knowledge and the improvement of therapeutic interventions

After completing the program, you will be able to use your knowledge and skills in the following positions:

1. **Physician Specialized in Language and Communication Disorders:** Responsible for diagnosing and treating conditions related to speech and language, collaborating with speech therapists and other professionals to develop effective treatment plans
2. **Specialist in Neurological Assessment of Language Disorders:** Expert in evaluating language disorders related to neurological conditions, using clinical and imaging tests to make accurate diagnoses and guide treatments
3. **Language Rehabilitation Consultant for Primary Care Centers:** Advisor on the implementation of language rehabilitation programs in primary care centers, collaborating with multidisciplinary teams to improve patient care for speech disorders
4. **Coordinator of Diagnostic and Treatment Programs for Speech Disorders:** In charge of coordinating medical and therapeutic teams for the evaluation, diagnosis, and treatment of speech disorders, ensuring continuity and integrity of patient care
5. **Physician Specialized in Language Neuropsychiatry:** Responsible for treating patients with language disorders stemming from neurological or psychiatric conditions, applying advanced knowledge in neuroscience and linguistics to develop personalized therapeutic strategies
6. **Expert in Research and Development of Treatments for Language Disorders:** Leader of clinical research projects focused on developing new therapies for language disorders, contributing to the creation of innovative, evidence-based treatments
7. **Physician in Education and Awareness of Language Disorders:** In charge of designing and leading educational programs aimed at both healthcare professionals and the general public, with the goal of raising awareness about language disorders and promoting early detection
8. **Physician Specialized in Language Disorders in Children and Adolescents:** Responsible for the evaluation and treatment of language disorders in children and adolescents, working in collaboration with parents and speech therapy teams to ensure proper language development
9. **Specialist in Rehabilitation of Language Disorders in Older Adults:** Specialist in the intervention and rehabilitation of language disorders in older adults, focused on improving their communication and quality of life through therapies adapted to their specific needs

You will direct exhaustive clinical research projects focused on the development of new therapies for the treatment of Speech Disorders"

06

Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.

TECH will prepare you to face new challenges in uncertain environments and achieve success in your career"

The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.
The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

"At TECH you will NOT have live classes (which you might not be able to attend)"

The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

> *TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want"*

Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.

Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.

A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

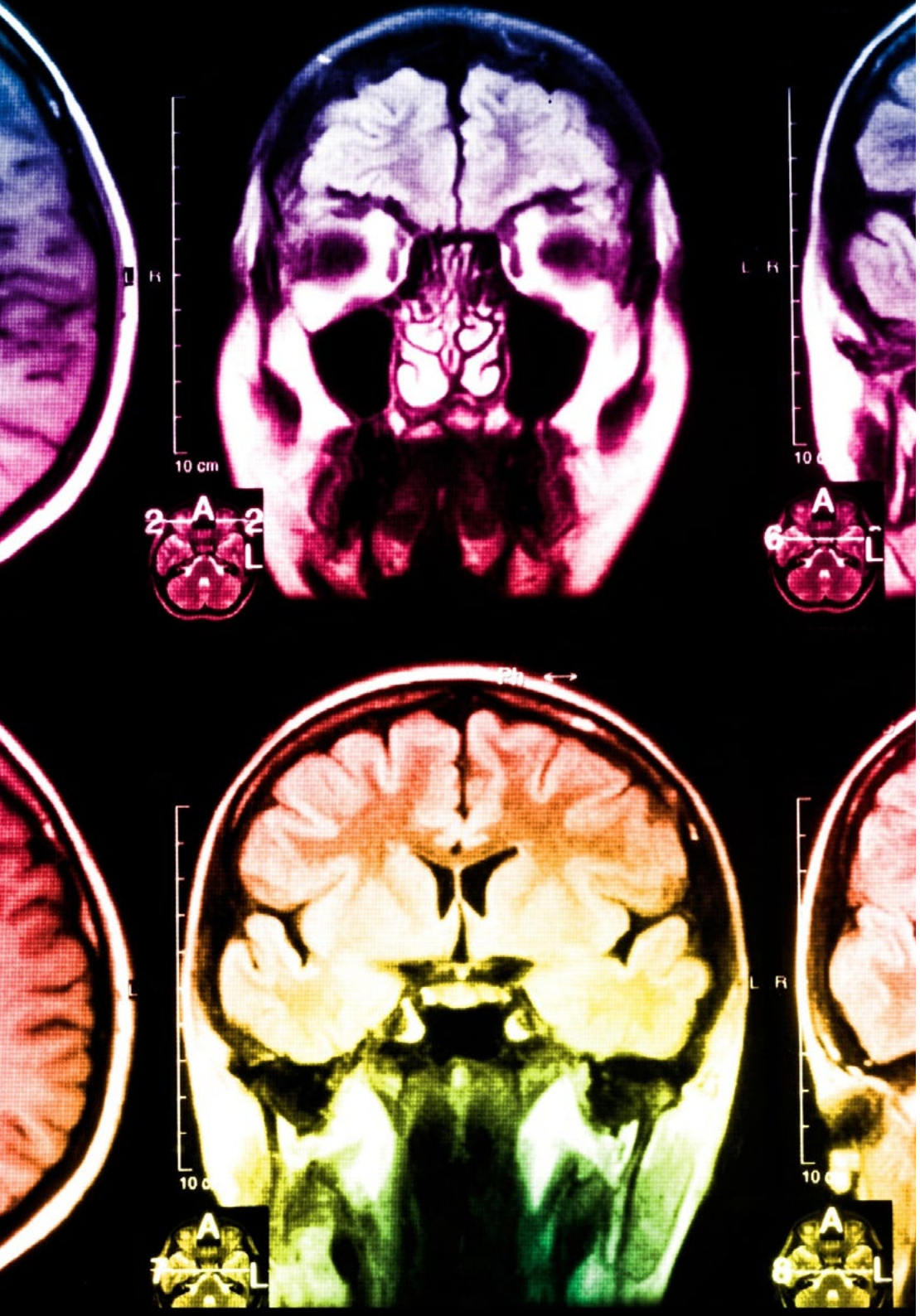
In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.

The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule"

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that assess real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.

You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.

As such, the best educational materials, thoroughly prepared, will be available in this program:

Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.

Practicing Skills and Abilities

You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.

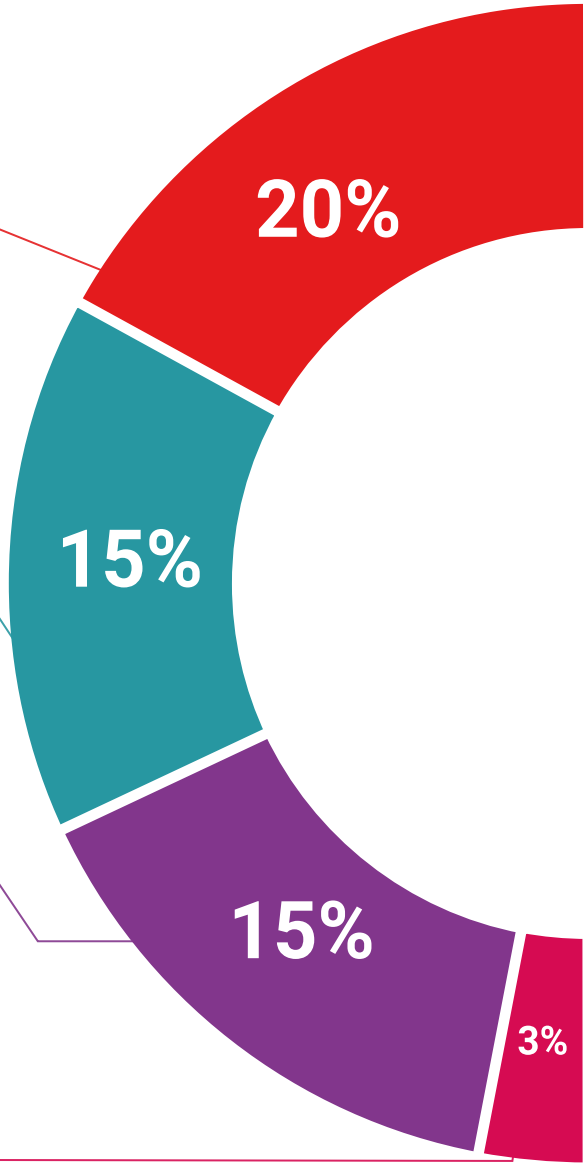
Interactive Summaries

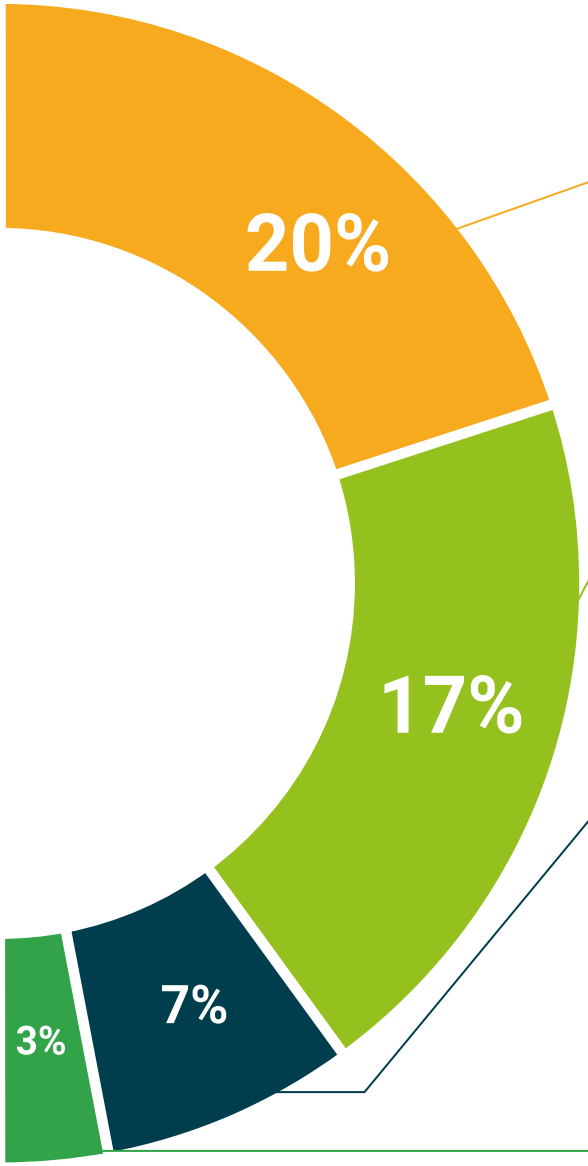
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".

Additional Reading

Recent articles, consensus documents, international guides... In our virtual library you will have access to everything you need to complete your education.





Case Studies

Students will complete a selection of the best case studies in the field. Cases that are presented, analyzed, and supervised by the best specialists in the world.

Testing & Retesting

We periodically assess and re-assess your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.

Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an expert strengthens knowledge and memory, and generates confidence for future difficult decisions.

Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical and effective way to help students progress in their learning.

07

Certificate

The Professional Master's Degree in Speech and Language Disorders guarantees students, in addition to the most rigorous and up-to-date education, access to a Professional Master's Degree diploma issued by TECH Global University.

Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"

This private qualification will allow you to obtain a **Professional Master's Degree diploma in Speech and Language Disorders** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University, is an official European University publicly recognized by the Government of Andorra ***(official bulletin)***. Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** private qualification is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Professional Master's Degree in Speech and Language Disorders**

Modality: **online**

Duration: **12 months**

Accreditation: **60 ECTS**

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Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Professional Master's Degree in Speech and Language Disorders

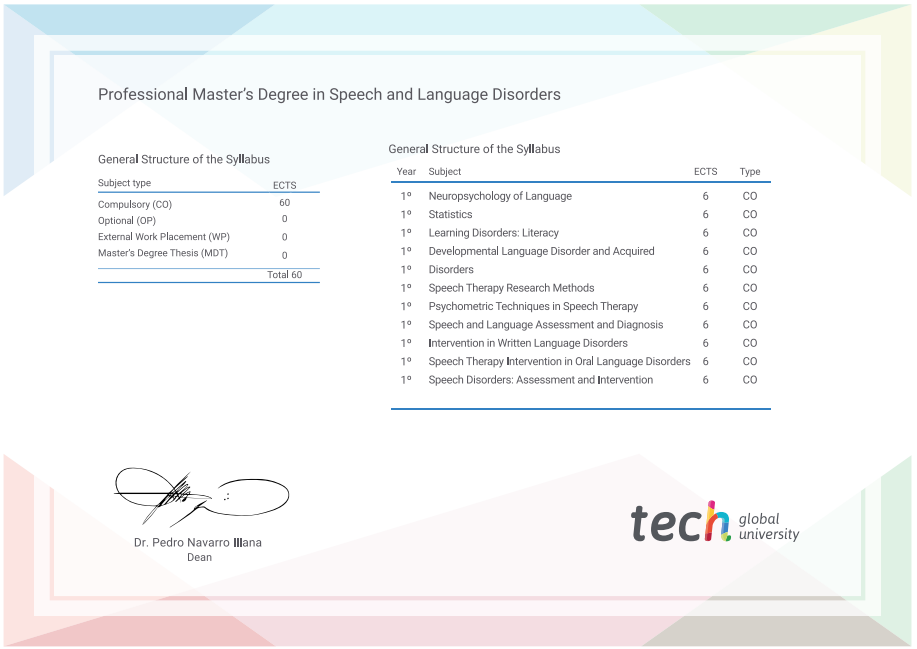
This is a private qualification of 1,800 hours of duration equivalent to 60 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates


Professional Master's Degree in Speech and Language Disorders

General Structure of the Syllabus

Subject type	ECTS
Compulsory (CO)	60
Optional (OP)	0
External Work Placement (WP)	0
Master's Degree Thesis (MDT)	0
	Total 60

General Structure of the Syllabus

Year	Subject	ECTS	Type
1º	Neuropsychology of Language	6	CO
1º	Statistics	6	CO
1º	Learning Disorders: Literacy	6	CO
1º	Developmental Language Disorder and Acquired	6	CO
1º	Disorders	6	CO
1º	Speech Therapy Research Methods	6	CO
1º	Psychometric Techniques in Speech Therapy	6	CO
1º	Speech and Language Assessment and Diagnosis	6	CO
1º	Intervention in Written Language Disorders	6	CO
1º	Speech Therapy Intervention in Oral Language Disorders	6	CO
1º	Speech Disorders: Assessment and Intervention	6	CO

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*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

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Professional Master's Degree

Speech and Language Disorders

- Modality: **online**
- Duration: **12 months**
- Certificate: **TECH Global University**
- Accreditation: **60 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Professional Master's Degree

Speech and Language Disorders

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