



# Master's Degree Speech, Language and Communication Disorders

» Modality: online

» Duration: 12 months

» Certificate: TECH Global University

» Credits: 60 ECTS

» Schedule: at your own pace

» Exams: online

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

## Index

| 01           |       | 02                |       |                       |       |
|--------------|-------|-------------------|-------|-----------------------|-------|
| Introduction |       | Objectives        |       |                       |       |
|              | p. 4  |                   | p. 8  |                       |       |
| 03           |       | 04                |       | 05                    |       |
| Skills       |       | Course Management |       | Structure and Content |       |
|              | p. 14 |                   | p. 18 |                       | p. 22 |
|              |       | 06                |       | 07                    |       |
|              |       | Methodology       |       | Certificate           |       |

p. 78

p. 86







## tech 06 | Introduction

In the first years of human life, physical and cognitive development is essential for proper development. However, certain minors present speech, language and communication difficulties that are often detected by education professionals themselves. Having qualified personnel in this area in the educational community facilitates the intervention of the child in coordination with families and specialists. A joint effort where the involvement of all parties will lead to the resolution of the problem, the academic improvement and ultimately the quality of life

A program taught exclusively in online mode that will allow students to progress in their professional career through a comprehensive curriculum, which will lead them throughout the 12 months of this degree to an in-depth knowledge in the field of speech, language and communication. Through video summaries, detailed videos or interactive diagrams, the student will be able to acquire a broad knowledge of the key concepts of speech therapy, dyslalias, dyslexia, specific language disorder, autism or genetic syndromes. Likewise, this university program will dedicate a space to psychological knowledge of interest in the speech therapy field, in which the main study habits and techniques that can help improve the performance of children and adolescents from a speech therapy and psychological point of view will be addressed. Additionally, the case studies provided by the teaching group will be very useful for the participants of this course, since it offers them an approach to situations that they may face in their professional performance.

TECH provides an excellent opportunity for those seeking to advance their professional careers through education offered in a convenient format. The student only needs a computer, tablet or cell phone to connect and consult the syllabus of this Master's Degree. This content will also be available in its entirety from the beginning of this program. With no attendance or fixed timetables, students have the freedom to access the virtual platform whenever and wherever they wish. In addition, you will have the possibility of distributing the teaching load according to your needs, allowing you to balance quality education with other areas of your personal life.

This Master's Degree in Speech, Language and Communication Disorders contains the most complete and up-to-date program on the market. The most important features include:

- Development of more than 75 case studies presented by experts in Speech, Language and Communication 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
- Latest developments in Speech, Language and Communication Disorders
- It contains practical exercises where the self-assessment process can be carried out to improve learning
- With special emphasis on innovative methodologies in Speech, Language and Communication Disorders
- All of this will be complemented by 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



Enroll now in a university degree in which you can comfortably delve into dyslexia, dyslalia or autism whenever you want"



An academic option that offers you the necessary teaching tools to obtain an advanced education in a more dynamic way"

The program's teaching staff includes professionals from the sector who contribute their work experience to this training 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 immersive training programmed to train in real situations.

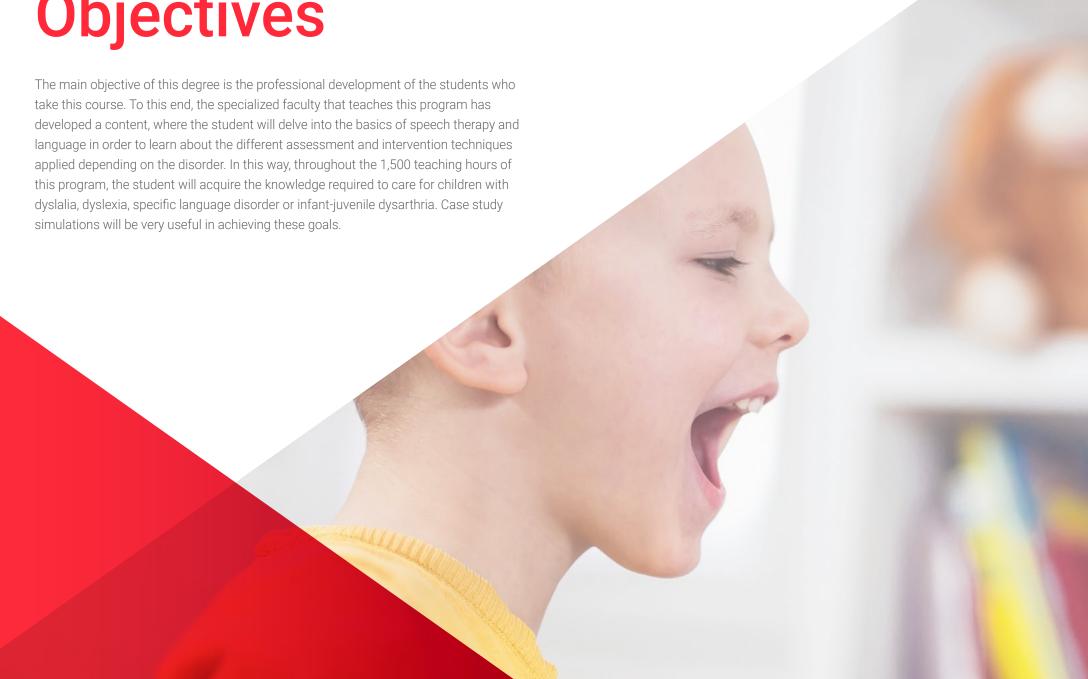
This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced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

The Relearning system used by TECH will allow you to reduce the hours of study that are more frequent in other teaching methods.

Do you want to improve in your field without neglecting other areas of your life? This Master's Degree gives you the flexibility you are looking for.







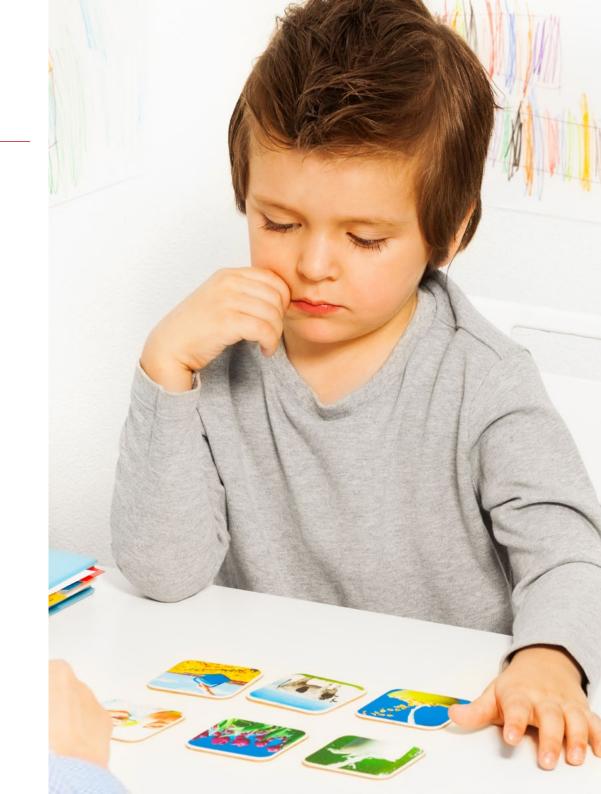


## tech 10 | Objectives



#### **General Objectives**

- Provide a specialized education based on theoretical and instrumental knowledge
  that will enable the student to obtain skills in detection, prevention, assessment and
  intervention in the logopathies treated.
- Consolidate basic knowledge of the intervention process in the classroom and other spaces based on the latest technological advances that facilitate access to information and the curriculum for these students.
- Update and develop specific knowledge on the characteristics of these disorders in order to refine the differential and proactive diagnosis that sets the guidelines for intervention.
- Raise awareness in the educational community of the need for educational inclusion and holistic intervention models with the participation of all members of the community
- Learn about educational experiences and good practices in speech therapy and psychosocial intervention that promote the personal, socio-family and educational adaptation of students with these educational needs





#### **Specific Objectives**

#### Module 1 Basis of Speech and Language Therapy

- Delve into the concept of speech therapy and the areas of action of professionals in this discipline
- Acquire knowledge about the concept of language and the different aspects that compose it
- Delve into the typical development of language, knowing its stages, as well as being able to identify the warning signs of language development
- Understand and be able to classify the different language pathologies, from the different approaches currently existing
- Know the different batteries and tests available in the discipline of speech therapy, in order to carry out a correct assessment of the different areas of language
- Be able to develop a speech therapy report in a clear and precise way, both for the families and for the different professionals
- Understand the importance and effectiveness of working with an interdisciplinary team, whenever necessary and beneficial for the child's rehabilitation

#### Module 2. Dyslalias: Assessment, Diagnosis, and Intervention

- Delve into the knowledge of dyslalias and the different types of classifications and subtypes that exist
- Understand and be able to apply the processes involved in the intervention, at the same time, to acquire knowledge to be able to intervene and to make own and effective material for the different dyslalias that may occur

#### Module 3. Dyslexia: Assessment, Diagnosis, and Intervention

- Gain knowledge about everything involved in the evaluation process, in order to be able to carry out the most effective speech therapy intervention possible
- Learn about the reading process from vowels and syllables to paragraphs and complex texts
- Analyze and develop techniques for a correct reading process
- Be aware and be able to involve the family in the child's intervention, so that they are part of the process and that this collaboration is as effective as possible

#### Module 4. Specific Language Disorder

- Acquire sufficient knowledge to be able to assess a verbal fluency disorder
- · Identify the main language disorders and their therapeutic treatment
- Recognize the need for an intervention supported and endorsed by both the family and the teaching staff of the child's school

#### Module 5. Understanding Autism

- Contact with the disorder. Identify myths and false beliefs
- Know the different areas affected, as well as the first indicators within the therapeutic process
- Promote professional competence based on a global vision of the clinical picture; multifactorial assessment
- Provide the necessary tools for an adequate specific adaptation in each case
- Broaden the vision of the field of action; professionals and family as an active role
- The role of the speech therapist as a dynamic element in the patient with autism

## tech 12 | Objectives

#### Module 6. Genetic Syndromes

- Be able to identify the most frequent genetic syndromes currently in use
- In-depth knowledge about the characteristics of each of the syndromes described in the degree
- Acquire optimal knowledge to carry out a correct and functional assessment of the different symptoms that may occur
- Delve into different intervention tools, including material and resources, both
  manipulatives and computer devices, as well as possible adaptations to be made All
  this, in order to achieve an effective and efficient intervention by the professional

## Module 7. Dysphemia and/or Stuttering: Assessment, Diagnosis, and Intervention

- Gain knowledge about the concept of dysphemia, including its symptoms and classification
- Be able to differentiate between normal dysfluency and verbal fluency impairment, such as dysphemia
- Delve into the marking of objectives and the depth of the intervention of a dysphemic child, in order to be able to carry out the most efficient and effective work possible.
- Understand and be aware of the need to keep a record of all the sessions and everything that happens in them

#### Module 8. Dysarthria in Children and Adolescents

- Acquisition of the basic fundamentals of dysarthria in children and adolescents, both conceptual and classificatory, as well as the particularities and differences with other pathologies
- Be able to differentiate the symptomatology and characteristics of verbal apraxia and dysarthria, being able to identify both pathologies by carrying out an adequate assessment process
- Clarify the role of the speech therapist in both the assessment and intervention process, being able to apply appropriate and personalized exercises to the child
- Gain knowledge about the environments and contexts of children's development, being able to provide appropriate support in all of them and guide the family and educational professionals in the rehabilitation process
- Be aware of the professionals involved in the assessment and intervention of dysarthric children, and the importance of collaboration with all of them during the intervention process

#### Module 9. Understanding Hearing Impairments

- Assimilation of the anatomy and functionality of the organs and mechanisms involved in hearing
- Delve into the concept of hypoacusis and the different types of hearing loss that exist
- Gain knowledge about the assessment and diagnostic tools to assess hearing loss and the importance of a multidisciplinary team to carry it out
- Be able to carry out an effective intervention in a hypoacusia, knowing and internalizing all the phases of such intervention

- Know and understand the functioning and importance of hearing aids and cochlear implants
- Delve into bimodal communication and to be able to understand its functions and their importance
- Approach the world of sign language, knowing its history, its structure, and the importance of its existence
- Understand the role of the sign language Interpreter

## Module 10. Psychological Knowledge of Interest in the Speech-Language Pathology Field

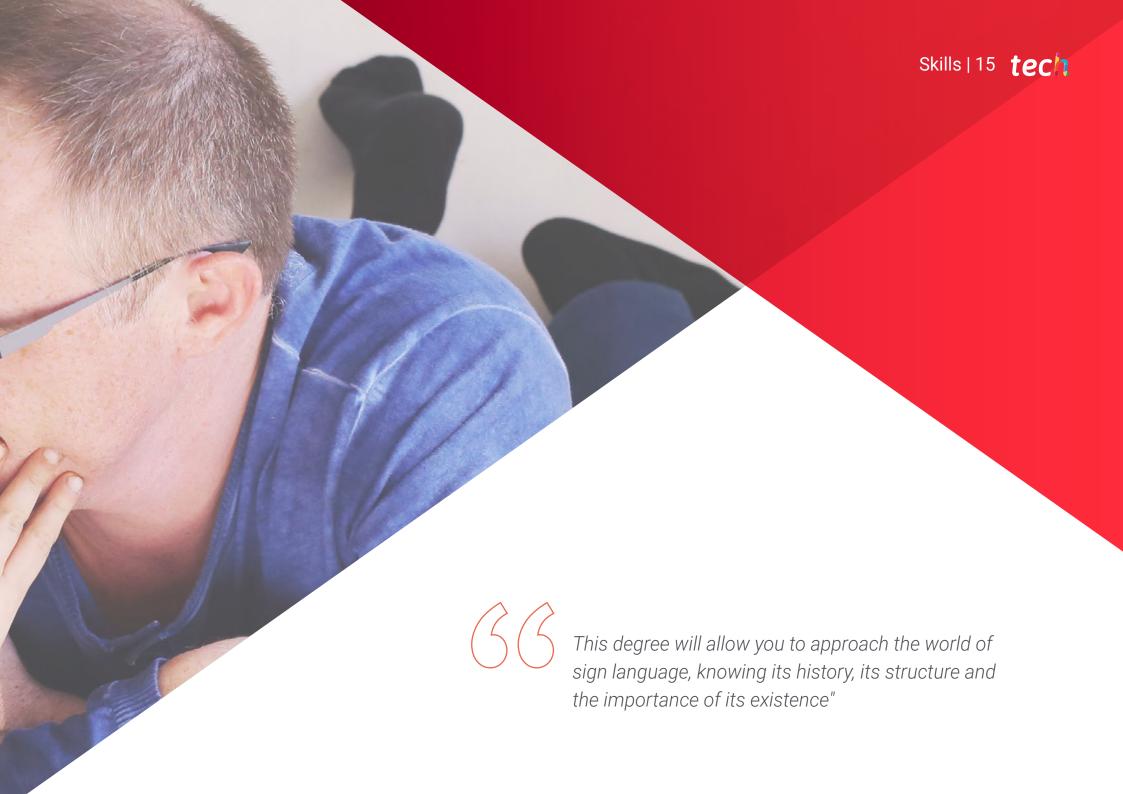
- Understand the area of knowledge and work of child and adolescent psychology: object of study, areas of action, etc.
- Become aware of the characteristics that a professional working with children and adolescents should have or enhance
- Acquire the basic knowledge necessary for the detection and referral of possible Psychological Problems in children and adolescents that may disturb the child's wellbeing and interfere in the Speech Therapy rehabilitation and to reflect on them
- To know the possible implications that different psychological problems (emotional, cognitive, and behavioral) may have on speech therapy rehabilitation
- Acquire knowledge related to attentional processes, as well as their influence on language and intervention strategies to be carried out at the speech therapy level together with other professionals
- Delve into the subject of executive functions and to know their implications in the area of language, as well as to acquire strategies to intervene on them at a speech therapy level together with other professionals

- Acquire knowledge on how to intervene at the level of social skills in children and adolescents, as well as to delve into some concepts related to them, and to obtain specific strategies to enhance them
- Know different behavior modification strategies that are useful in consultation to achieve both the initiation, development, and generalization of appropriate behaviors, as well as the reduction or elimination of inappropriate behaviors
- Delve into the concept of motivation and to acquire strategies to promote it in consultation
- Acquire knowledge related to school failure in children and adolescents
- Gain knowledge about the main study habits and techniques that can help to improve the
  performance of children and adolescents from a speech therapy and psychological point
  of view



This program will lead you to acquire key knowledge to apply different behavior modification strategies"





## tech 16 | Skills



#### **General Skills**

- Delve into concepts and logopedic procedures and each and every one of the areas of action of the professionals of this discipline
- Acquire knowledge about the dimensions of language and speech
- Delve into the evolutionary and normative neurodevelopmental aspects
- Understand and be able to classify the different speech and language pathologies
- Acquire skills for the elaboration of technical reports
- Assimilate effective intervention practices from a multidisciplinary approach









## Specific Skills

- Delve into the knowledge of logopathies and the different types of existing classifications and subtypes
- Gain knowledge of the assessment process, in order to carry out the most effective speech therapy intervention possible
- Be aware and be able to involve the family, as well as the rest of the educational agents in the whole speech therapy process, considering the contextual and psychosocial variables
- Learn and integrate the use of technologies, as well as the application of innovative therapies and resources from other related disciplines

04

## **Course Management**

TECH remains committed to offering all students a quality education with the most innovative content in the academic field. This is the reason why in this degree the students will find a highly qualified management and teaching staff with extensive experience in Speech, Language and Communication Disorders. A team of specialists whose extensive knowledge is reflected in a curriculum that has been designed using the latest technologies applied to education. Likewise, the faculty will answer any questions that may arise about the syllabus that integrates this degree. All this with the main objective that the students progress in their professional career with a 100% online and high level program.



## tech 20 | Course Management

#### Management



#### Ms. Vázquez Pérez, Maria Asunción

- Forensic Speech Therapist with teaching experience in Attention Deficit Hyperactivity Disorder (ADHD)
- Diploma in Speech Therapy with training and experience in hearing impairment, autism spectrum disorders, augmentative communication systems

#### **Professors**

#### Ms. Berbel, Fina Mari

- Rehabilitation clinic manager
- Speech therapist at the Federation of Deaf People of Alicante
- Speech therapist graduated from the University of Murcia with a Master's degree in Clinical Audiology and Hearing Therapy
- Training in Spanish Sign Language interpreting

#### Ms. Rico Sánchez, Rosana

- Director and Speech Therapist in the Speech Therapy and Pedagogy Center "Words and More"
- Speech therapist collegial N° 09/032 Professional Association of Speech Therapists of Castilla y León

#### Ms. López Mouriz, Patricia

- General Health Psychologist graduated in Psychology from the University of Santiago de Compostela (USC)
- Master's Degree in General Health Psychology from the same university in 2018
- Training in equality, brief therapy, and learning difficulties in children
- Specialised in psychological intervention in drug addiction and eating disorders, as well as in group intervention with women in vulnerable situations
- Degree in Psychology from the University of Santiago de Compostela (USC)





#### Ms. Mata Ares, Sandra María

- Speech therapist
- Specialist in Speech Therapy Intervention in Childhood and Adolescence
- Master's Degree in Speech Therapy Intervention in Childhood and Adolescence
- She has specific training in disorders related to Speech and Language in childhood and adulthood

#### Ms. Plana González, Andrea

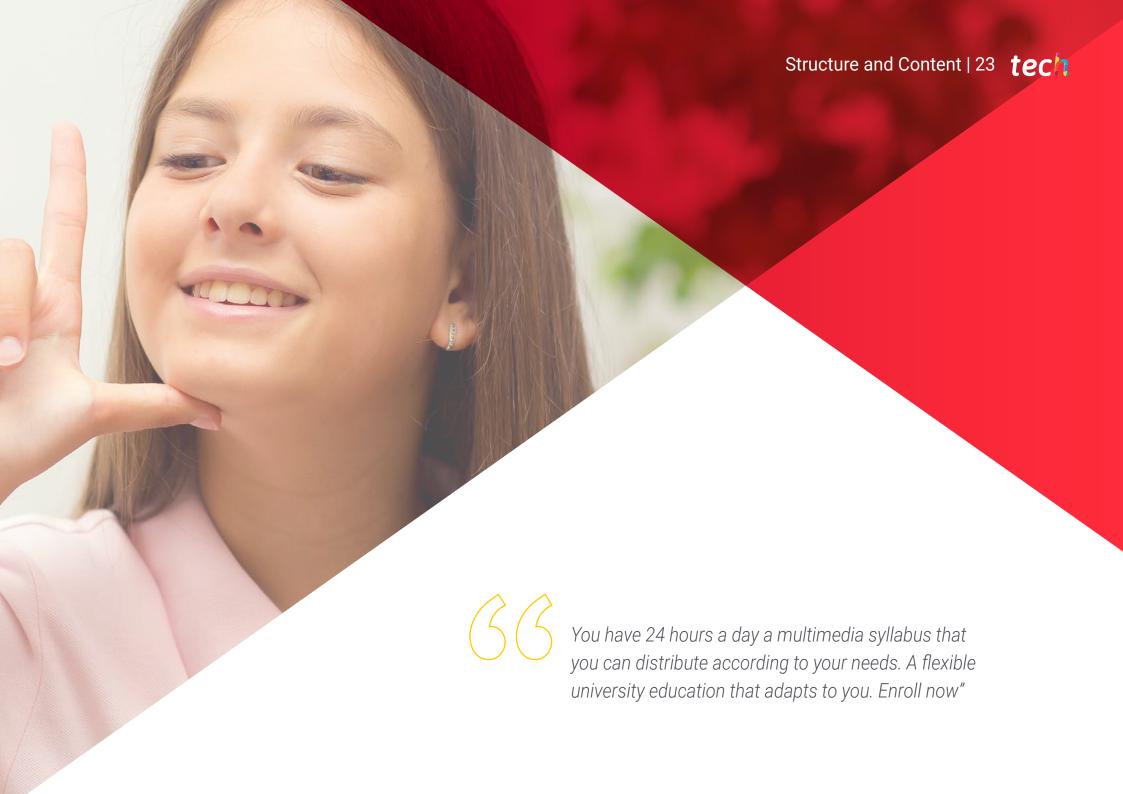
- Specialized in phonological awareness, dyslexia, dyslalia, ASD, aphasia, dementia, dysarthria and dysphagia
- Graduated in Speech Therapy at the University of Valladolid
- Master's Degree in Orofacial and Myofunctional Therapy from the Pontifical University of Salamanca
- Specialized in phonological awareness, dyslexia, dyslalia, ASD, aphasia, dementia, dysarthria and dysphagia

#### Ms. Cerezo Fernández, Ester

- Speech therapist specialized in Neurology
- Master's degree in clinical neuropsychology, expert in myofunctional therapy and early care, neurological speech therapy
- Graduate in Speech Therapy



The curriculum of this Master's Degree has been developed by a teaching team that has invested hours in creating content that provides the most relevant and essential information for understanding speech, language and communication disorders. The relearning system, used by TECH in all its qualifications, will favor the progression along this teaching in a more natural and agile way. In addition, this method reduces the long hours of study so frequent in other methodologies. With these tools, students will learn the fundamental concepts of speech therapy and language, as well as the techniques and tools used for the correction and resolution of the most common disorders in the infantile-juvenile stage.



### tech 24 | Structure and Content

#### Module 1. Basis of Speech and Language Therapy

- 1.1. Introduction to the Master's Degree and to the Module
  - 1.1.1. Introduction to the Master's Degree
  - 1.1.2. Introduction to the Module
  - 1.1.3. Previous Aspects of the Language
  - 1.1.4. History of the Study of Language
  - 1.1.5. Basic Theories of Language
  - 1.1.6. Research in Language Acquisition
  - 1.1.7. Neurological Bases of Language Development.
  - 1.1.8. Perceptual Bases in Language Development
  - 1.1.9. Social and Cognitive Bases of Language
    - 1.1.9.1. Introduction
    - 1.1.9.2. The Importance of Imitation
  - 1.1.10. Final Conclusions
- 1.2. What is Speech Therapy?
  - 1.2.1. Speech Therapy
    - 1.2.1.1. Concept of Speech Therapy
    - 1.2.1.2. Concept of Speech Therapist
  - 1.2.2. History of Speech Therapy
  - 1.2.3. Speech Therapy in the rest of the World
    - 1.2.3.1. Importance of the Speech Therapy Professional in the Rest of the World
    - 1.2.3.2. What are Speech Therapists called in other countries?
    - 1.2.3.3. Is the figure of the Speech Therapist valued in other Countries?
  - 1.2.4. Functions of the Speech-Language Pathologist
    - 1.2.4.1. The Reality of Speech Therapy
  - 1.2.5. Areas of Intervention of the Speech Therapist
    - 1.2.5.1. The Reality of the Speech-Language Pathologist's areas of intervention
  - 1.2.6. Forensic Speech Therapy
    - 1.2.6.1. Initial Considerations
    - 1.2.6.2. Concept of Forensic Speech Therapist
    - 1.2.6.3. The Importance of Forensic Speech Therapists

- 1.2.7. The Hearing and Speech Teacher
  - 1.2.7.1. Concept of Hearing and Speech Teacher
  - 1.2.7.2. Areas of work of the Hearing and Speech Teacher
  - 1.2.7.3. Differences between Speech-Language Pathologist and Hearing and Speech Teacher
- 1.2.8. Final Conclusions
- 1.3. Language, Speech, and Communication
  - 1.3.1. Preliminary Considerations
  - 1.3.2. Language, Speech, and Communication
    - 1.3.2.1. Concept of Language
    - 1.3.2.2. Concept of Speech
    - 1.3.2.3. Concept of Communication
    - 1.3.2.4. How do they differ?
  - 1.3.3. Language Dimensions
    - 1.3.3.1. Formal or Structural Dimension
    - 1.3.3.2. Functional Dimension
    - 1.3.3.3. Behavioral Dimension
  - 1.3.4. Theories that explain Language Development
    - 1.3.4.1. Preliminary Considerations
    - 1.3.4.2. Theory of Determinism: Whorf
    - 1.3.4.3. Theory of Behaviorism: Skinner
    - 1.3.4.4. Theory of Innatism: Chomsky
    - 1.3.4.5. Interactionist positions
  - 1.3.5. Cognitive theories that explain the development of Language.
    - 1.3.5.1. Piaget
    - 1.3.5.2. Vygotsky
    - 1.3.5.3. Luria
    - 1354 Bruner
  - 1.3.6. Influence of the Environment on Language Acquisition
  - 1.3.7. Language Components
    - 1.3.7.1. Phonetics and Phonology
    - 1.3.7.2. Semantics and Lexicon
    - 1.3.7.3. Morphosyntax
    - 1.3.7.4. Pragmatics



## Structure and Content | 25 tech

- 1.3.8. Stages of Language Development
  - 1.3.8.1. Prelinguistic Stage
  - 1.3.8.2. Linguistic Stage
- 1.3.9. Summary Table of Normative Language Development
- 1.3.10. Final Conclusions
- 1.4. Speech, Language and Communication Disorders
  - 1.4.1. Introduction to Unit
  - 1.4.2. Speech, Language and Communication Disorders
    - 1.4.2.1. Concept of Communication Disorder
    - 1.4.2.2. Concept of Speech Disorder
    - 1.4.2.3. Concept of Language Disorder
    - 1.4.2.4. How do they differ?
  - 1.4.3. Communication Disorders
    - 1.4.3.1. Preliminary Considerations
    - 1.4.3.2. Comorbidity with other Disorders
    - 1.4.3.3. Types of Communication Disorders
      - 1.4.3.3.1. Social Communication Disorder
      - 1.4.3.3.2. Unspecified Communication Disorder
  - 1.4.4. Speech Disorders
    - 1.4.4.1. Preliminary Considerations
    - 1.4.4.2. Origin of Speech Disorders
    - 1.4.4.3. Symptoms of a Speech Disorder
      - 1.4.4.3.1. Mild delay
      - 1.4.4.3.2. Moderate Delay
      - 1.4.4.3.3. Severe delay
    - 1.4.4.4. Warning signs in Speech Disorders
  - 1.4.5. Classification of Speech Disorders
    - 1.4.5.1. Phonological Disorder or Dyslalia
    - 1.4.5.2. Dysphemia
    - 1.4.5.3. Dysglossia
    - 1.4.5.4. Dysarthria
    - 1.4.5.5. Tachyphemia
    - 1.4.5.6. Others

## tech 26 | Structure and Content

1.5.

| 1.4.6.  | Language Disorders   |
|---------|--|
|         | 1.4.6.1. Preliminary Considerations                                      |
|         | 1.4.6.2. Origin of Language Disorders                                    |
|         | 1.4.6.3. Conditions related to Language Disorders                        |
|         | 1.4.6.4. Warning signs in Language Development                           |
| 1.4.7.  | Types of Language Disorders  |
|         | 1.4.7.1. Receptive Language Difficulties                                 |
|         | 1.4.7.2. Expressive Language Difficulties                                |
|         | 1.4.7.3. Receptive-Expressive Language Difficulties.                     |
| 1.4.8.  | Classification of Language Disorders                                     |
|         | 1.4.8.1. From the Clinical Approach                                      |
|         | 1.4.8.2. From the Educational Approach                                   |
|         | 1.4.8.3. From the Psycholinguistic Approach                              |
|         | 1.4.8.4. From the Axiological point of view                              |
| 1.4.9.  | What skills are affected in a Language Disorder?                         |
|         | 1.4.9.1. Social Skills   |
|         | 1.4.9.2. Academic Problems   |
|         | 1.4.9.3. Other Affected skills   |
| 1.4.10. | Types of Language Disorders  |
|         | 1.4.10.1. TEL  |
|         | 1.4.10.2. Aphasia  |
|         | 1.4.10.3. Dyslexia   |
|         | 1.4.10.4. Attention Deficit Hyperactivity Disorder (ADHD)                |
|         | 1.4.10.5. Others   |
| 1.4.11. | Comparative Table of Typical Development and Developmental Disturbances. |
| Logope  | dic Evaluation Instruments   |
| 1.5.1.  | Introduction to Unit   |
| 1.5.2.  | Aspects to be Highlighted during the Logopedic Evaluation                |
|         | 1.5.2.1. Fundamental considerations                                      |
| 1.5.3.  | Evaluation of Orofacial Motor Skills: The Stomatognathic System          |

- 1.5.4. Areas of Speech-Language, Speech, and Communication Speech-Language Evaluation
  1.5.4.1. Anamnesis (family interview)
  1.5.4.2. Evaluation of the Preverbal Stage
  - 1.5.4.3. Assessment of Phonetics and Phonology
  - 1.5.4.4. Assessment of Morphology
  - 1.5.4.5. Syntax Evaluation
  - 1.5.4.6. Evaluation of Semantics
  - 1.5.4.7. Evaluation of Pragmatics
- 1.5.5. General Classification of the Most Commonly Used Tests in Speech Assessment
  - 1.5.5.1. Developmental Scales: Introduction
  - 1.5.5.2. Oral Language Assessment Tests: Introduction
  - 1.5.5.3. Test for the Assessment of Reading and Writing: Introduction
- 1.5.6. Developmental Scales
  - 1.5.6.1. Brunet-Lézine Developmental Scale
  - 1.5.6.2. Battelle Developmental Inventory
  - 1.5.6.3. Portage Guide
  - 1.5.6.4. Haizea-Llevant
  - 1.5.6.5. Bayley scale of Child Development
  - 1.5.6.6. McCarthy Scale (Scale of Aptitudes and Psychomotor Skills for Children)
- 1.5.7. Oral Language Assessment Test
  - 1.5.7.1. BLOC
  - 1.5.7.2. Monfort Induced Phonological Register
  - 1.5.7.3. ITPA
  - 1.5.7.4. PLON-R
  - 1.5.7.5. PEABODY
  - 1.5.7.6. RFI
  - 1.5.7.7. ALS-R
  - 1.5.7.8. EDAF
  - 1.5.7.9. CELF 4
  - 1.5.7.10. BOEHM
  - 1.5.7.11. TSA
  - 1.5.7.12. CEG
  - 1.5.7.13. ELCE

## Structure and Content | 27 tech

| 1.5.8.  | Test for Reading and Writing Assessment                           |
|---------|---|
|         | 1.5.8.1. PROLEC-R   |
|         | 1.5.8.2. PROLEC-SE  |
|         | 1.5.8.3. PROESC   |
|         | 1.5.8.4. TALE   |
| 1.5.9.  | Summary Table of the Different Tests                              |
| 1.5.10. | Final Conclusions   |
| Compoi  | nents That Must be Included in a Speech-Language Pathology Report |
| 1.6.1.  | Introduction to Unit  |
| 1.6.2.  | The Reason for the Appraisal                                      |
|         | 1.6.2.1. Request or Referral by the Family                        |
|         | 1.6.2.2. Request or Referral by School or External Center         |
| 1.6.3.  | Medical History   |
|         | 1.6.3.1. Anamnesis with the Family                                |
|         | 1.6.3.2. Meeting with the Educational Center                      |
|         | 1.6.3.3. Meeting with Other Professionals                         |
| 1.6.4.  | The Patient's Medical and Academic History                        |
|         | 1.6.4.1. Medical History  |
|         | 1.6.4.1.1. Evolutionary Development                               |
|         | 1.6.4.2. Academic History   |
| 1.6.5.  | Situation of the Different Contexts                               |
|         | 1.6.5.1. Situation of the Family Context                          |
|         | 1.6.5.2. Situation of the Social Context                          |
|         | 1.6.5.3. Situation of the School Context                          |
| 1.6.6.  | Professional Assessments  |
|         | 1.6.6.1. Assessment by the Speech Therapist                       |
|         | 1.6.6.2. Assessments by Other Professionals                       |
|         | 1.6.6.2.1. Assessment by the Occupational Therapist               |
|         | 1.6.6.2.2. Teacher Assessment                                     |
|         | 1.6.6.2.3. Psychologist's Assessment                              |
|         | 1.6.6.2.4. Other Assessments                                      |
| 1.6.7.  | Results of the Assessments  |
|         | 1.6.7.1. Logopedic Evaluation Results                             |

1.6.7.2. Results of the other Evaluations

1.6.

|      | 1.6.8.  | Clinical Judgment and/or Conclusions   |
|------|---------|--|
|      |         | 1.6.8.1. Speech-Language Pathologist's Judgment                                  |
|      |         | 1.6.8.2. Judgment of Other Professionals   |
|      |         | 1.6.8.3. Judgment in Common with the Other Professionals                         |
|      | 1.6.9.  | Speech Therapy Intervention Plan   |
|      |         | 1.6.9.1. Objectives to Intervene   |
|      |         | 1.6.9.2. Intervention Program  |
|      |         | 1.6.9.3. Guidelines and/or Recommendations for the Family                        |
|      | 1.6.10. | Why is it so Important to Carry Out a Speech Therapy Report?                     |
|      |         | 1.6.10.1. Preliminary Considerations   |
|      |         | 1.6.10.2. Areas where a Speech Therapy Report can be Key                         |
| 1.7. | Speech  | Therapy Intervention Program   |
|      | 1.7.1.  | Introduction   |
|      |         | 1.7.1.1. The need to elaborate a Speech Therapy Intervention Program             |
|      | 1.7.2.  | What is a Speech Therapy Intervention Program?                                   |
|      |         | 1.7.2.1. Concept of the Intervention Program                                     |
|      |         | 1.7.2.2. Intervention Program Fundamentals                                       |
|      |         | 1.7.2.3. Speech Therapy Intervention Program Considerations                      |
|      | 1.7.3.  | Fundamental Aspects for the Elaboration of a Speech Therapy Intervention Program |
|      |         | 1.7.3.1. Characteristics of the Child  |
|      | 1.7.4.  | Planning of the Speech Therapy Intervention                                      |
|      |         | 1.7.4.1. Methodology of Intervention to be Carried Out                           |
|      |         | 1.7.4.2. Factors to Take Into Account in the Planning of the Intervention        |
|      |         | 1.7.4.2.1. Extracurricular Activities  |
|      |         | 1.7.4.2.2. Chronological and Corrected Age of the Child                          |
|      |         | 1.7.4.2.3. Number of Sessions per Week   |
|      |         | 1.7.4.2.4. Collaboration on the Part of the Family                               |
|      |         | 1.7.4.2.5. Economic Situation of the Family                                      |
|      | 1.7.5.  | Objectives of the Speech Therapy Intervention Program                            |
|      |         | 1.7.5.1. General Objectives of the Speech Therapy Intervention Program           |
|      |         | 1.7.5.2. Specific Objectives of the Speech Therapy Intervention Program          |

## tech 28 | Structure and Content

| 1.7.6. | Areas of Speech Therapy Intervention and Techniques for its Intervention                        |
|--------|---|
| 1.7.0. | 1.7.6.1. Voice  |
|        | 1.7.6.2. Speech   |
|        | 1.7.6.3. Prosody  |
|        | 1.7.6.4. Language   |
|        | 1.7.6.5. Reading  |
|        | 1.7.6.6. Writing  |
|        | 1.7.6.7. Orofacial  |
|        | 1.7.6.8. Communication  |
|        | 1.7.6.9. Hearing  |
|        | 1.7.6.10. Breathing   |
| 1.7.7. | Materials and Resources for Speech Therapy Intervention   |
|        | 1.7.7.1. Proposition of Materials of Own Manufacture and Indispensable in a Speech Therapy Room |
|        | 1.7.7.2. Proposition of Indispensable Materials on the Market for a Speech<br>Therapy Room      |
|        | 1.7.7.3. Indispensable Technological Resources for Speech Therapy Intervention                  |
| 1.7.8. | Methods of Speech Therapy Intervention  |
|        | 1.7.8.1. Introduction   |
|        | 1.7.8.2. Types of Intervention Methods  |
|        | 1.7.8.2.1. Phonological Methods   |
|        | 1.7.8.2.2. Clinical Intervention Methods  |
|        | 1.7.8.2.3. Semantic Methods   |
|        | 1.7.8.2.4. Behavioral-Logopedic Methods   |
|        | 1.7.8.2.5. Pragmatic Methods  |
|        | 1.7.8.2.6. Medical Methods  |
|        | 1.7.8.2.7. Others   |
|        | 1.7.8.3. Choice of the Most Appropriate Method of Intervention for Each<br>Subject              |
| 1.7.9. | The Interdisciplinary Team  |
|        | 1.7.9.1. Introduction   |
|        | 1.7.9.2. Professionals Who Collaborate Directly with the Speech Therapist                       |
|        | 1.7.9.2.1. Psychologists  |
|        | 1.7.9.2.2. Occupational Therapists  |

|      |         | 1.7.9.2.3. Professors  |
|------|---------|--|
|      |         | 1.7.9.2.4. Hearing and Speech Teachers   |
|      |         | 1.7.9.2.5. Others  |
|      |         | 1.7.9.3. The Work of these Professionals in Speech-Language Pathology Intervention |
|      | 1.7.10. | Final Conclusions  |
| 1.8. | Augme   | ntative and Alternative Communication Systems (AACS)                               |
|      | 1.8.1.  | Introduction to Unit   |
|      | 1.8.2.  | What are AACS?   |
|      |         | 1.8.2.1. Concept of Augmentative Communication System                              |
|      |         | 1.8.2.2. Concept of Alternative Communication System                               |
|      |         | 1.8.2.3. Similarities and Differences  |
|      |         | 1.8.2.4. Advantages of AACS  |
|      |         | 1.8.2.5. Disadvantages: of AACS  |
|      |         | 1.8.2.6. How do AACS arise?  |
|      | 1.8.3.  | Principles: of AACS  |
|      |         | 1.8.3.1. General Principles  |
|      |         | 1.8.3.2. False myths about AACS  |
|      | 1.8.4.  | How to Know the Most Suitable AACS?  |
|      | 1.8.5.  | Communication Support Products   |
|      |         | 1.8.5.1. Basic Support Products  |
|      |         | 1.8.5.2. Technological Support Products  |
|      | 1.8.6.  | Strategies and Support Products for Access   |
|      |         | 1.8.6.1. Direct Selection  |
|      |         | 1.8.6.2. Mouse Selection   |
|      |         | 1.8.6.3. Dependent Scanning or Sweeping  |
|      |         | 1.8.6.4. Coded Selection   |
|      | 1.8.7.  | Types of AACS  |
|      |         | 1.8.7.1. Sign Language   |
|      |         | 1.8.7.2. The Complemented Word   |
|      |         | 1.8.7.3. PECs  |
|      |         | 1.8.7.4. Bimodal Communication   |
|      |         | 1.8.7.5. Bliss System  |
|      |         | 1.8.7.6. Communicators   |
|      |         | 1877 Minspeak  |

1.8.7.8. Schaeffer System

### Structure and Content | 29 tech

- 1.8.8. How to Promote the Success of the AACS Intervention?
- 1.8.9. Technical Aids Adapted to Each Person
  - 1.8.9.1. Communicators
  - 1.8.9.2. Pushbuttons
  - 1.8.9.3. Virtual Keypads
  - 1.8.9.4. Adapted Mice
  - 1.8.9.5. Data Input Devices
- 1.8.10. AACS Resources and Technologies
  - 1.8.10.1. AraBoard Builder
  - 1.8.10.2. Talk up
  - 1.8.10.3. #lamVisual
  - 1.8.10.4. SPQR
  - 1.8.10.5. DictaPicto
  - 1.8.10.6. AraWord
  - 1.8.10.7. Picto Selector
- 1.9. The family as Part of the Intervention and Support for the Child
  - 1.9.1. Introduction
    - 1.9.1.1. The Importance of the Family in the Correct Development of the child
  - 1.9.2. Consequences in the Family Context of a Child with Atypical Development
    - 1.9.2.1. Difficulties Present in the Immediate Environment
  - 1.9.3. Communication Problems in the Immediate Environment
    - 1.9.3.1. Communicative Barriers Encountered by the Subject at Home
  - 1.9.4. Speech Therapy intervention aimed at the Family-Centered Intervention Model
    - 1.9.4.1. Concept of Family Centered Intervention
    - 1.9.4.2. How to carry out the Family Centered Intervention?
    - 1.9.4.3. The importance of the Family-Centered Model
  - 1.9.5. Integration of the family in the Speech-Language Pathology Intervention
    - 1.9.5.1. How to integrate the family in the Intervention?
    - 1.9.5.2. Guidelines for the Professional
  - 1.9.6. Advantages of family integration in all contexts of the subject
    - 1.9.6.1. Advantages of coordination with Educational Professionals
    - 1.9.6.2. Advantages of coordination with Health Professionals

- 1.9.7. Recommendations for the Family Environment
  - 1.9.7.1. Recommendations to Facilitate Oral Communication
  - 1.9.7.2. Recommendations for a Good Relationship in the Family Environment
- 1.9.8. The Family as a Key Part in the Generalization of the Established Objectives
  - 1.9.8.1. The Importance of the Family in Generalization
  - 1.9.8.2. Recommendations to facilitate Generalization
- 1.9.9. How do I communicate with my child?
  - 1.9.9.1. Modifications in the child's family environment
  - 1.9.9.2. Advice and Recommendations from the child
  - 1.9.9.3. The Importance of keeping a Record Sheet
- 1.9.10. Final Conclusions
- 1.10. Child Development in the School context
  - 1.10.1. Introduction to Unit
  - 1.10.2. The Involvement of the School Center during the Speech Therapy Intervention
    - 1.10.2.1. The Influence of the School Center in the child's development
    - 1.10.2.2. The Importance of the Center in the Speech Therapy Intervention
  - 1.10.3. School Supports
    - 1.10.3.1. Concept of School Support
    - 1.10.3.2. Who provides School Support in the Center?
      - 1.10.3.2.1. Hearing and Speech Teacher
      - 1.10.3.2.2. Therapeutic Pedagogy Teacher (PT)
      - 1.10.3.2.3. Counselor
  - 1.10.4. Coordination with the Professionals of the Educational Center
    - 1.10.4.1. Educational Professionals with whom the Speech-Language Pathologist coordinates with
    - 1.10.4.2. Basis for Coordination
    - 1.10.4.3. The Importance of Coordination in the Child's Development
  - 1.10.5. Consequences of the Child with Special Educational Needs in the Classroom
    - 1.10.5.1. How the Child Communicates with Teachers and Students?
    - 1.10.5.2. Psychological Consequences
  - 1.10.6. School Needs of the Child
    - 1.10.6.1. Taking Educational Needs into Account in Intervention
    - 1.10.6.2. Who Determines the Child's Educational Needs?
    - 1.10.6.3. How Are They Established?

## tech 30 | Structure and Content

|      | 1.10.7. | Methodological bases for Classroom Intervention.                               |      | 2.2.8.  | Comorbidity  |
|------|---------|--|------|---------|--|
|      |         | 1.10.7.1. Strategies to favor the child's Integration                          |      |         | 2.2.8.1. Comorbidity in Dyslalia   |
|      | 1.10.8. | Curricular Adaptation  |      |         | 2.2.8.2. Associated Disorders  |
|      |         | 1.10.8.1. Concept of Curricular Adaptation                                     |      | 2.2.9.  | Prevalence   |
|      |         | 1.10.8.2. Professionals who Apply it   |      |         | 2.2.9.1. Preliminary Considerations  |
|      |         | 1.10.8.3. How does it benefit the child with Special Educational Needs?        |      |         | 2.2.9.2. The Prevalence of Dyslalia in the PreSchool Population            |
|      | 1.10.9. | Final Conclusions  |      |         | 2.2.9.3. The Prevalence of Dyslalia in the School Population               |
|      |         |  |      | 2.2.10. | Final Conclusions  |
| Mod  | dule 2. | Dyslalias: Assessment, Diagnosis, and Intervention                             | 2.3. | Etiolog | y and Classification of Dyslalias  |
| 2.1. | Module  | e Presentation   |      | 2.3.1.  | •  |
|      | 2.1.1.  | Introduction   |      |         | 2.3.1.1. Preliminary Considerations  |
| 2.2. | Introdu | uction to Dyslalia   |      |         | 2.3.1.2. Poor Motor Skills   |
|      | 2.2.1.  | What are Phonetics and Phonology?  |      |         | 2.3.1.3. Respiratory Difficulties  |
|      |         | 2.2.1.1. Basic Concepts  |      |         | 2.3.1.4. Lack of Comprehension or Auditory Discrimination                  |
|      |         | 2.2.1.2. Phonemes  |      |         | 2.3.1.5. Psychological Factors   |
|      | 2.2.2.  | Classification of Phonemes   |      |         | 2.3.1.6. Environmental Factors   |
|      |         | 2.2.2.1. Preliminary Considerations  |      |         | 2.3.1.7. Hereditary Factors  |
|      |         | 2.2.2.2. According to the point of Articulation                                |      |         | 2.3.1.8. Intellectual Factors  |
|      |         | 2.2.2.3. According to the mode of Articulation                                 |      | 2.3.2.  | Classification of Dyslalias according to Etiological Criteria              |
|      | 2.2.3.  | Speech Emission  |      |         | 2.3.2.1. Organic Dyslalias   |
|      |         | 2.2.3.1. Aspects of Sound Emission   |      |         | 2.3.2.2. Functional Dyslalias  |
|      |         | 2.2.3.2. Mechanisms Involved in Speech   |      |         | 2.3.2.3. Developmental Dyslalias   |
|      | 2.2.4.  | Phonological Development   |      |         | 2.3.2.4. Audiogenic Dyslalias  |
|      |         | 2.2.4.1. The Implication of Phonological Awareness                             |      | 2.3.3.  | The classification of Dyslalias according to Chronological Criteria        |
|      | 2.2.5.  | Organs Involved in Phoneme Articulation  |      |         | 2.3.3.1. Preliminary Considerations  |
|      |         | 2.2.5.1. Breathing Organs  |      |         | 2.3.3.2. Speech Delay  |
|      |         | 2.2.5.2. Organs of Articulation  |      |         | 2.3.3.3. Dyslalia  |
|      |         | 2.2.5.3. Organs of Phonation   |      | 2.3.4.  | Classification of Dyslalia according to the Phonological Process involved. |
|      | 2.2.6.  | Dyslalias  |      |         | 2.3.4.1. Simplification  |
|      |         | 2.2.6.1. Etymology of the Term   |      |         | 2.3.4.2. Assimilation  |
|      |         | 2.2.6.2. Concept of Dyslalia   |      |         | 2.3.4.3. Syllable Structure  |
|      | 2.2.7.  | Adult Dyslalia   |      | 2.3.5.  | Classification of Dyslalia based on Linguistic Level                       |
|      |         | 2.2.7.1. Preliminary Considerations  |      |         | 2.3.5.1. Phonetic Dyslalia   |
|      |         | 2.2.7.2. Characteristics of adult Dyslalia                                     |      |         | 2.3.5.2. Phonological Dyslalia   |
|      |         | 2.2.7.3. What is the difference between childhood Dyslalia and adult Dyslalia? |      |         | 2.3.5.3. Mixed Dyslalia  |

2.3.6. Classification of Dyslalia according to the Phoneme involved. 2.3.6.1. Hotentotism 2362 Altered Phonemes 2.3.7. Classification of Dyslalia according to the number of errors and their persistence 2.3.7.1. Simple Dyslalia 2.3.7.2. Multiple Dyslalias 2.3.7.3. Speech Delay 2.3.8. The Classification of Dyslalias according to the type of error 2.3.8.1. Omission 2.3.8.2. Addiction/Insertion 2.3.8.3. Substitution 2.3.8.4. Inversions 2.3.8.5. Distortion 2.3.8.6. Assimilation 2.3.9. Classification of Dyslalia in terms of Temporality 2.3.9.1. Permanent Dyslalias 2.3.9.2. Transient Dyslalias 2 3 10 Final Conclusions Assessment Processes for the Diagnosis and Detection of Dyslalia 2.4.1. Introduction to the Structure of the Assessment Process 2.4.2. Medical History 2.4.2.1. Preliminary Considerations 2.4.2.2. Content of the Anamnesis 2.4.2.3. Aspects to emphasize of the Anamnesis 2.4.3. Articulation 2.4.3.1. In Spontaneous Language 2.4.3.2. In Repeated Speech 2.4.3.3. In Directed Language 2.4.4. Motor Skills 2.4.4.1. Key Elements 2.4.4.2. Orofacial Motor Skills 2 4 4 3 Muscle Tone

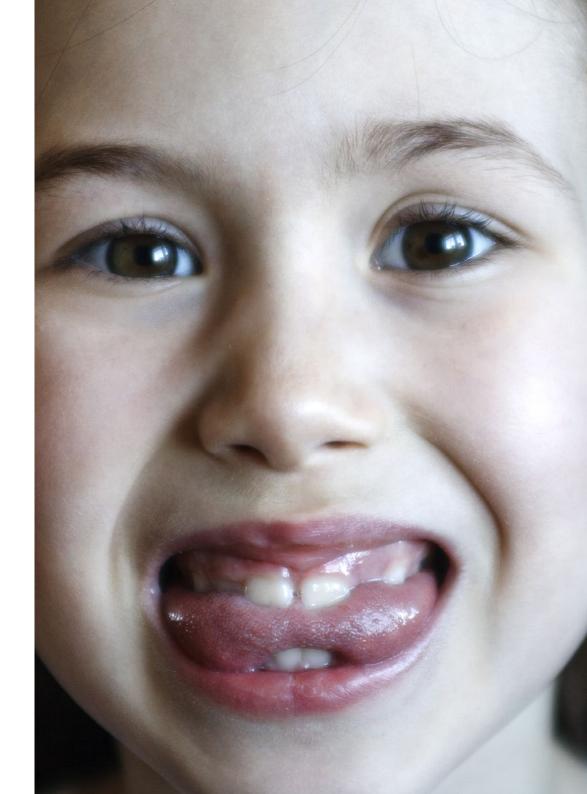
Auditory Perception and Discrimination 2.4.5.1. Sound Discrimination 2 4 5 2 Phoneme Discrimination 2.4.5.3. Word Discrimination 2.4.6. Speech Samples 2.4.6.1. Preliminary Considerations 2.4.6.2. How to Collect a Speech Sample? 2.4.6.3. How to make a record of the Speech Samples? 2.4.7. Standardized tests for the Diagnosis of Dyslalia 2.4.7.1. What are Standardized Tests? 2.4.7.2. Purpose of Standardized Tests 2.4.7.3. Classification 2.4.8. Non-Standardized Tests for the Diagnosis of Dyslalias 2.4.8.1. What are Non-Standardized Tests? 2.4.8.2. Purpose of Non-Standardized Tests 2.4.8.3. Classification 2.4.9. Differential Diagnosis of Dyslalia 2 4 10 Final Conclusions 2.5. User-Centered Speech-Language Pathology Intervention 2.5.1. Introduction to Unit 2.5.2. How to Set Goals During the Intervention? 2.5.2.1. General Considerations 2.5.2.2. Individualized or Group Intervention, Which is More Effective? 2.5.2.3. Specific objectives that the Speech-Language Pathologist has to take into account for the Intervention of each Dyslalia Structure to be Followed During Dyslalia Intervention 2.5.3.1 Initial Considerations 2.5.3.2. What is the Order of Intervention for Dyslalia? 2.5.3.3. In Multiple Dyslalia, which Phoneme would the Speech-Language Pathologist start working on and what would be the reason? Direct Intervention in Children with Dyslalia 2.5.4.1. Concept of Direct Intervention 2.5.4.2 Who is the Focus of this Intervention?

2.5.4.3. The importance of Direct Intervention for Dyslexic Children

## tech 32 | Structure and Content

| 2.5.5. | Indirect | Intervention | for Children | with Dyslalia |
|--------|----------|--------------|--------------|---------------|
|--------|----------|--------------|--------------|---------------|

- 2.5.5.1. Concept of Indirect Intervention
- 2.5.5.2. Who is the Focus of this Intervention?
- 2.5.5.3. The importance of Carrying Out Indirect Intervention in Dyslexic Children
- 2.5.6. The Importance of Play During Rehabilitation
  - 2.5.6.1. Preliminary Considerations
  - 2.5.6.2. How to Use Games for Rehabilitation?
  - 2.5.6.3. Adaptation of Games to Children, Necessary or Not?
- 2.5.7. Auditory Discrimination
  - 2.5.7.1. Preliminary Considerations
  - 2.5.7.2. Concept of Auditory Discrimination
  - 2.5.7.3. When is the right time during the Intervention to include Auditory Discrimination?
- 2.5.8. Making a Schedule
  - 2.5.8.1. What is a Schedule?
  - 2.5.8.2. Why Should a Schedule be Used in the Speech Therapy Intervention of the Dyslexic Child?
  - 2.5.8.3. Benefits of Making a Schedule
- 2.5.9. Requirements to Justify Discharge
- 2.5.10. Final Conclusions
- 2.6. The Family as a Part of the Intervention of the Dysbalic Child
  - 2.6.1. Introduction to Unit
  - 2.6.2. Communication Problems with the Family Environment
    - 2.6.2.1. What Difficulties does the Dyslexic Child Encounter in their Family Environment to Communicate?
  - 2.6.3. Consequences of Dyslalias in the Family
    - 2.6.3.1. How do Dyslalias Influence the Child in their Home?
    - 2.6.3.2. How do Dyslalias Influence the Child's Family?
  - 2.6.4. Family Involvement in the Development of the Dyslalic Child.
    - 2.6.4.1. The Importance of the Family in the Child's Development
    - 2.6.4.2. How to Involve the Family in the Intervention?
  - 2.6.5. Recommendations for the Family Environment
    - 2.6.5.1. How to Communicate with the Dyslexic Child?
    - 2.6.5.2. Tips to Benefit the Relationship in the Home



| 2.6.6.  | Benefits of Involving the Family in the Intervention                    |
|---------|---|
|         | 2.6.6.1. The Fundamental Role of the Family in Generalization           |
|         | 2.6.6.2. Tips for Helping the Family Achieve Generalization             |
| 2.6.7.  | The Family as the Center of the Intervention                            |
|         | 2.6.7.1. Supports That Can be Provided to the Family                    |
|         | 2.6.7.2. How to Facilitate these Aids During the Intervention?          |
| 2.6.8.  | Family Support to the Dyslalic Child                                    |
|         | 2.6.8.1. Preliminary Considerations                                     |
|         | 2.6.8.2. Teaching Families how to Reinforce the Dyslexic child          |
| 2.6.9.  | Resources Available to Families   |
| 2.6.10. | Final Conclusions   |
| The Sch | nool Context as Part of the Dyslalic Child's Intervention               |
| 2.7.1.  | Introduction to Unit  |
| 2.7.2.  | The involvement of the School During the Intervention Period            |
|         | 2.7.2.1. The Importance of the Involvement of the School                |
|         | 2.7.2.2. The Influence of the School on Speech Development              |
| 2.7.3.  | The Impact of Dyslalias in the School Context                           |
|         | 2.7.3.1. How Can Dyslalias Influence the Curriculum?                    |
| 2.7.4.  | School Supports   |
|         | 2.7.4.1. Who Provides Them?   |
|         | 2.7.4.2. How Are They Carried Out?                                      |
| 2.7.5.  | The coordination of the Speech Therapist with the School Professionals  |
|         | 2.7.5.1. With Whom Does the Coordination Take Place?                    |
|         | 2.7.5.2. Guidelines to Be Followed to Achieve Such Coordination         |
| 2.7.6.  | Consequences in Class of the Dyslalic Child                             |
|         | 2.7.6.1. Communication with Classmates                                  |
|         | 2.7.6.2. Communication with Teachers                                    |
|         | 2.7.6.3. Psychological Repercussions of the Child                       |
| 2.7.7.  | Orientations  |
|         | 2.7.7.1. Guidelines for the School, to Improve the Child's Intervention |
| 2.7.8.  | The School as an Enabling Environment                                   |
|         | 2.7.8.1. Preliminary Considerations                                     |
|         | 2.7.8.2. Classroom Care Guidelines                                      |
|         | 2.7.8.3. Guidelines for improving Classroom Articulation                |
| 2.7.9.  | Resources Available to the School                                       |
| 2710    | Final Conclusions   |

2.7.

| 2.8.1.  | Introduction to Unit  |
|---------|---|
| 2.8.2.  | The Praxias   |
|         | 2.8.2.1. Concept of Praxias   |
|         | 2.8.2.2. Types of Praxias   |
|         | 2.8.2.2.1. Ideomotor Praxias  |
|         | 2.8.2.2.2. Ideational Praxias   |
|         | 2.8.2.2.3. Facial Praxias   |
|         | 2.8.2.2.4. Visoconstructive Praxias   |
|         | 2.8.2.3. Classification of Praxias According to Intention (Junyent Fabregat, 1989)                                  |
|         | 2.8.2.3.1. Transitive Intention   |
|         | 2.8.2.3.2. Aesthetic Purpose  |
|         | 2.8.2.3.3. With Symbolic Character  |
| 2.8.3.  | Frequency of the Performance of Orofacial Praxias.  |
| 2.8.4.  | What Praxias are used in the Speech Therapy Intervention of Dyslalia?   |
|         | 2.8.4.1. Labial Praxias   |
|         | 2.8.4.2. Lingual Praxias  |
|         | 2.8.4.3. Velum of Palate Praxias  |
|         | 2.8.4.4. Other Praxias  |
| 2.8.5.  |   |
| 2.8.6.  |   |
|         | 2.8.6.1. Exercises for the Labial Praxias   |
|         | 2.8.6.2. Exercises for the Lingual Praxias  |
|         | 2.8.6.3. Exercises for Soft Palate Praxias  |
| 0.07    | 2.8.6.4. Other Exercises  |
| 2.8.7.  | Current Controversy over the use of Orofacial Praxias   |
| 2.8.8.  | Theories in favor of the use of Praxias in the Intervention of the Dyslexic Child                                   |
|         | 2.8.8.1. Preliminary Considerations   |
|         | 2.8.8.2. Scientific Evidence  |
| 2.8.9.  | 2.8.8.3. Comparative Studies  Theories against the realization of Praxias in the intervention of the Dyslexic Child |
| 2.0.9.  | 2.8.9.1. Preliminary Considerations   |
|         | 2.8.9.2. Scientific Evidence  |
|         | 2.8.9.3. Comparative Studies  |
| 2810    | Final Conclusions   |
| 2.0.10. | Timal Contributions   |

2.8. Bucco-phonatory Praxias

## tech 34 | Structure and Content

2.9.

| Materia | ils and Resources for the Speech Therapy Intervention of Dyslalia: Part I      | 2.9.10      | ). Materials and Resources for the Correction of the Phoneme /k/ in All Positions             |
|---------|--|-------------|---|
| 2.9.1.  | Introduction to Unit   |             | 2.9.10.1. Self-Made Material  |
| 2.9.2.  | Materials and Resources for the Correction of the Phoneme /p/ in All Positions |             | 2.9.10.2. Commercially Available Material   |
|         | 2.9.2.1. Self-Made Material  |             | 2.9.10.3. Technological Resources   |
|         | 2.9.2.2. Commercially Available Material                                       | 2.10. Mater | ials and Resources for the Speech Therapy Intervention of Dyslalia: Part II                   |
|         | 2.9.2.3. Technological Resources   | 2.10.1      | . Materials and Resources for the Correction of the Phoneme /f/ in All Positions              |
| 2.9.3.  | Materials and Resources for the Correction of the Phoneme /s/ in All Positions |             | 2.10.1.1. Self-Made Material  |
|         | 2.9.3.1. Self-Made Material  |             | 2.10.1.2. Commercially Available Material   |
|         | 2.9.3.2. Commercially Available Material                                       |             | 2.10.1.3. Technological Resources   |
|         | 2.9.3.3. Technological Resources   | 2.10.2      | 2. Materials and Resources for the Correction of the Phoneme /ñ/ in All Positions             |
| 2.9.4.  | Materials and Resources for the Correction of the Phoneme /r/ in All Positions |             | 2.10.2.1. Self-Made Material  |
|         | 2.9.4.1. Self-Made Material  |             | 2.10.2.2. Commercially Available Material   |
|         | 2.9.4.2. Commercially Available Material                                       |             | 2.10.2.3. Technological Resources   |
|         | 2.9.4.3. Technological Resources   | 2.10.3      | 3. Materials and Resources for the correction of the Phoneme /g/ in All Positions             |
| 2.9.5.  | Materials and Resources for the Correction of the Phoneme /l/ in All Positions |             | 2.10.3.1. Self-Made Material  |
|         | 2.9.5.1. Self-Made Material  |             | 2.10.3.2. Commercially Available Material   |
|         | 2.9.5.2. Commercially Available Material                                       |             | 2.10.3.3. Technological Resources   |
|         | 2.9.5.3. Technological Resources   | 2.10.4      | I. Materials and Resources for the Correction of the Phoneme /II/ in All Positions            |
| 2.9.6.  | Materials and Resources for the Correction of the Phoneme /m/ in All Positions |             | 2.10.4.1. Self-Made Material  |
|         | 2.9.6.1. Self-Made Material  |             | 2.10.4.2. Commercially Available Material   |
|         | 2.9.6.2. Commercially Available Material                                       |             | 2.10.4.3. Technological Resources   |
|         | 2.9.6.3. Technological Resources   | 2.10.5      | 5. Materials and Resources for the Correction of the Phoneme /b/ in All Positions             |
| 2.9.7.  | Materials and Resources for the Correction of the Phoneme /n/ in All Positions |             | 2.10.5.1. Self-Made Material  |
|         | 2.9.7.1. Self-Made Material  |             | 2.10.5.2. Commercially Available Material   |
|         | 2.9.7.2. Commercially Available Material                                       |             | 2.10.5.3. Technological Resources   |
|         | 2.9.7.3. Technological Resources   | 2.10.6      | 6. Materials and Resources for the Correction of the Phoneme /t/ in All Positions             |
| 2.9.8.  | Materials and Resources for the Correction of the Phoneme /d/ in All Positions |             | 2.10.6.1. Self-Made Material  |
|         | 2.9.8.1. Self-Made Material  |             | 2.10.6.2. Commercially Available Material   |
|         | 2.9.8.2. Commercially Available Material                                       |             | 2.10.6.3. Technological Resources   |
|         | 2.9.8.3. Technological Resources   | 2.10.7      | $^{\prime}$ . Materials and Resources for the Correction of the Phoneme /ch/ in All Positions |
| 2.9.9.  | Materials and Resources for the Correction of the Phoneme /z/ in All Positions |             | 2.10.7.1. Self-Made Material  |
|         | 2.9.9.1. Self-Made Material  |             | 2.10.7.2. Commercially Available Material   |
|         | 2.9.9.2. Commercially Available Material                                       |             | 2.10.7.3. Technological Resources   |
|         | 2.9.9.3. Technological Resources   |             |   |

- 2.10.8. Materials and Resources for the Correction of the Phoneme /l/ in All Positions
  - 2.10.8.1. Self-Made Material
  - 2.10.8.2. Commercially Available Material
  - 2.10.8.3. Technological Resources
- 2.10.9. Materials and Resources for the Correction of the Phoneme /r/ in All Positions
  - 2.10.9.1. Self-Made Material
  - 2.10.9.2. Commercially Available Material
  - 2.10.9.3. Technological Resources
- 2.10.10. Final Conclusions

#### Module 3. Dyslexia: Assessment, Diagnosis, and Intervention

- 3.1. Basic Fundamentals of Reading and Writing
  - 3.1.1. Introduction
  - 3.1.2. The Brain
    - 3.1.2.1. Anatomy of the Brain
    - 3.1.2.2. Brain Function
  - 3.1.3. Methods of Brain Scanning
    - 3.1.3.1. Structural Imaging
    - 3.1.3.2. Functional Imaging
    - 3.1.3.3. Stimulation Imaging
  - 3.1.4. Neurobiological Basis of Reading and Writing
    - 3.1.4.1. Sensory Processes
      - 3.1.4.1.1. The Visual Component
      - 3.1.4.1.2. The Auditory Component
    - 3.1.4.2. Reading Processes
      - 3.1.4.2.1. Reading Decoding
      - 3.1.4.2.2. Reading Comprehension
    - 3.1.4.3. Writing Processes
      - 3.1.4.3.1. Written Coding
      - 3.1.4.3.2. Syntactic Construction
      - 3.1.4.3.3. Planning
      - 3.1.4.3.4. The Act of Writing

- 3.1.5. Psycholinguistic Processing of Reading and Writing
  - 3.1.5.1. Sensory Processes
    - 3.1.5.1.1. The Visual Component
    - 3.1.5.1.2. The Auditory Component
  - 3.1.5.2. Reading Process
    - 3.1.5.2.1. Reading Decoding
    - 3.1.5.2.2. Reading Comprehension
  - 3.1.5.3. Writing Processes
    - 3.1.5.3.1. Written Coding
    - 3.1.5.3.2. Syntactic Construction
    - 3.1.5.3.3. Planning
    - 3.1.5.3.4. The Act of Writing
- 3.1.6. The Dyslexic Brain in the Light of Neuroscience
- 3.1.7. Laterality and Reading
  - 3.1.7.1. Reading with the Hands
  - 3.1.7.2. Handedness and Language
- 3.1.8. Integration of the Outside World and Reading
  - 3.1.8.1. Attention
  - 3.1.8.2. Memory
  - 3.1.8.3. Emotions
- 3.1.9. Chemical Mechanisms Involved in Reading
  - 3.1.9.1. Neurotransmitters
  - 3.1.9.2. Limbic System
- 3.1.10. Conclusions and Appendices
- 3.2. Talking and Organizing Time and Space for Reading
  - 3.2.1. Introduction
  - 3.2.2. Communication.
    - 3.2.2.1. Oral Language
    - 3.2.2.2. Written Language
  - 3.2.3. Relationship between Oral Language and Written Language
    - 3.2.3.1. Syntactic Aspects
    - 3.2.3.2. Semantic Aspects
    - 3.2.3.3. Phonological Aspects
  - 3.2.4. Recognize Language Forms and Structures
    - 3.2.4.1. Language, Speech, and Writing

## tech 36 | Structure and Content

3.3.

| 3.2.5.   | Develop Speech   |      | 3.3.5.  | Etiology  |
|----------|--|------|---------|---|
|          | 3.2.5.1. Oral Language   |      |         | 3.3.5.1. Explanatory Theories of Dyslexia           |
|          | 3.2.5.2. Linguistic prerequisites for Reading                  |      |         | 3.3.5.1.1. Genetic Theories                         |
| 3.2.6.   | Recognize the structures of Written Language                   |      |         | 3.3.5.1.2. Neurobiological Theories                 |
|          | 3.2.6.1. Recognize the Word                                    |      |         | 3.3.5.1.3. Linguistic Theories                      |
|          | 3.2.6.2. Recognize the Sequential Organization of the Sentence |      |         | 3.3.5.1.4. Phonological Theories                    |
|          | 3.2.6.3. Recognize the meaning of Written Language             |      |         | 3.3.5.1.5. Visual Theories                          |
| 3.2.7.   | Structure Time   |      | 3.3.6.  | Types of Dyslexia                                   |
|          | 3.2.7.1. Organizing Time                                       |      |         | 3.3.6.1. Phonological Dyslexia                      |
| 3.2.8.   | Structuring Space  |      |         | 3.3.6.2. Lexical Dyslexia                           |
|          | 3.2.8.1. Spatial Perception and Organization                   |      |         | 3.3.6.3. Mixed Dyslexia                             |
| 3.2.9.   | Reading Strategies and their Learning                          |      | 3.3.7.  | Comorbidities and Strengths                         |
|          | 3.2.9.1. Logographic Stage and Global Method                   |      |         | 3.3.7.1. ADD or ADHD                                |
|          | 3.2.9.2. Alphabetic Stage                                      |      |         | 3.3.7.2. Dyscalculia                                |
|          | 3.2.9.3. Orthographic Stage and Learning to Write              |      |         | 3.3.7.3. Dysgraphia                                 |
|          | 3.2.9.4. Understanding to Be Able to Read                      |      |         | 3.3.7.4. Visual Stress Syndrome                     |
| 3.2.10.  | Conclusions and Appendices                                     |      |         | 3.3.7.5. Crossed Laterality                         |
| Dyslexia | a  |      |         | 3.3.7.6. High Abilities                             |
| 3.3.1.   | Introduction   |      |         | 3.3.7.7. Strengths                                  |
| 3.3.2.   | Brief History of the Term Dyslexia                             |      | 3.3.8.  | The Person with Dyslexia                            |
|          | 3.3.2.1. Chronology  |      |         | 3.3.8.1. The Child with Dyslexia                    |
|          | 3.3.2.2. Different Terminological Meanings                     |      |         | 3.3.8.2. The Adolescent with Dyslexia               |
| 3.3.3.   | Conceptual Approach  |      |         | 3.3.8.3. The Adult with Dyslexia                    |
|          | 3.3.3.1. Dyslexia  |      | 3.3.9.  | Psychological Repercussions                         |
|          | 3.3.3.1.1. WHO Definition                                      |      |         | 3.3.9.1. The Feeling of Injustice                   |
|          | 3.3.3.1.2. DSM-IV Definition                                   |      | 3.3.10. | Conclusions and Appendices                          |
|          | 3.3.3.1.3. DSM-V Definition                                    | 3.4. | How to  | Identify the Person with Dyslexia?                  |
| 3.3.4.   | Other Related Concepts   |      | 3.4.1.  | Introduction  |
|          | 3.3.4.1. Conceptualization of Dysgraphia                       |      | 3.4.2.  | Warning Signs                                       |
|          | 3.3.4.2. Conceptualization of Dysorthography                   |      |         | 3.4.2.1. Warning Signs in Early Childhood Education |
|          |  |      |         | 3.4.2.2. Warning Signs in Primary Education         |

| 3.4.3. | Frequent Symptomatology   |
|--------|---|
|        | 3.4.3.1. General Symptomatology                                   |
|        | 3.4.3.2. Symptomatology by Stages                                 |
|        | 3.4.3.2.1. Infant Stage   |
|        | 3.4.3.2.2. School Stage   |
|        | 3.4.3.2.3. Adolescent Stage                                       |
|        | 3.4.3.2.4. Adult Stage  |
| 3.4.4. | Specific Symptomatology   |
|        | 3.4.4.1. Dysfunctions in Reading                                  |
|        | 3.4.4.1.1. Dysfunctions in the Visual Component                   |
|        | 3.4.4.1.2. Dysfunctions in the Decoding Processes                 |
|        | 3.4.4.1.3. Dysfunctions in Comprehension Processes                |
|        | 3.4.4.2. Dysfunctions in Writing                                  |
|        | 3.4.4.2.1. Dysfunctions in the Oral-Written Language Relationship |
|        | 3.4.4.2.2. Dysfunction in the Phonological Component              |
|        | 3.4.4.2.3. Dysfunction in the Encoding Processes                  |
|        | 3.4.4.2.4. Dysfunction in Syntactic Construction Processes        |
|        | 3.4.4.2.5. Dysfunction in Planning                                |
|        | 3.4.4.3. Motor Processes  |
|        | 3.4.4.3.1. Visuoperceptive Dysfunctions                           |
|        | 3.4.4.3.2. Visuoconstructive Dysfunctions                         |
|        | 3.4.4.3.3. Visuospatial Dysfunctions                              |
|        | 3.4.4.3.4. Tonic Dysfunctions                                     |
| 3.4.5. | Dyslexia Profiles   |
|        | 3.4.5.1. Phonological Dyslexia Profile                            |
|        | 3.4.5.2. Lexical Dyslexia Profile                                 |
|        | 3.4.5.3. Mixed Dyslexia Profile                                   |
| 3.4.6. | Dysgraphia Profiles   |
|        | 3.4.6.1. Visuoperceptual Dyslexia Profile                         |
|        | 3.4.6.2. Visuoconstructive Dyslexia Profile                       |
|        | 3.4.6.3. Visuospatial Dyslexia Profile                            |
|        | 3.4.6.4. Tonic Dyslexia Profile                                   |

|         | 3.4.7.1. Phonological Dysorthography Profile              |
|---------|---|
|         | 3.4.7.2. Orthographic Dysorthographic Profile             |
|         | 3.4.7.3. Syntactic Dysorthography Profile                 |
|         | 3.4.7.4. Cognitive Dysorthography Profile                 |
| 3.4.8.  | Associated Pathologies                                    |
|         | 3.4.8.1. Secondary Pathologies                            |
| 3.4.9.  | Dyslexia versus other Disorders                           |
|         | 3.4.9.1. Differential Diagnosis                           |
| 3.4.10. | Conclusions and Appendices                                |
| Assessr | ment and Diagnosis  |
| 3.5.1.  | Introduction  |
| 3.5.2.  | Evaluation of Tasks                                       |
|         | 3.5.2.1. The Diagnostic Hypothesis                        |
| 3.5.3.  | Evaluation of Processing Levels                           |
|         | 3.5.3.1. Sublexical Units                                 |
|         | 3.5.3.2. Lexical Units                                    |
|         | 3.5.3.3. Supralexical Units                               |
| 3.5.4.  | Assessment of Reading Processes                           |
|         | 3.5.4.1. Visual Component                                 |
|         | 3.5.4.2. Decoding Process                                 |
|         | 3.5.4.3. Comprehension Process                            |
| 3.5.5.  | Evaluation of Writing Processes                           |
|         | 3.5.5.1. Neurobiological Skills of the Auditory Component |
|         | 3.5.5.2. Encoding Process                                 |
|         | 3.5.5.3. Syntactic Construction                           |
|         | 3.5.5.4. Planning   |
|         | 3.5.5.5. The Act of Writing                               |
| 3.5.6.  | Evaluation of the Oral-Written Language Relationship      |
|         | 3.5.6.1. Lexical Awareness                                |
|         | 3.5.6.2. Representational Written Language                |
|         |   |

3.4.7. Dysorthographic Profiles

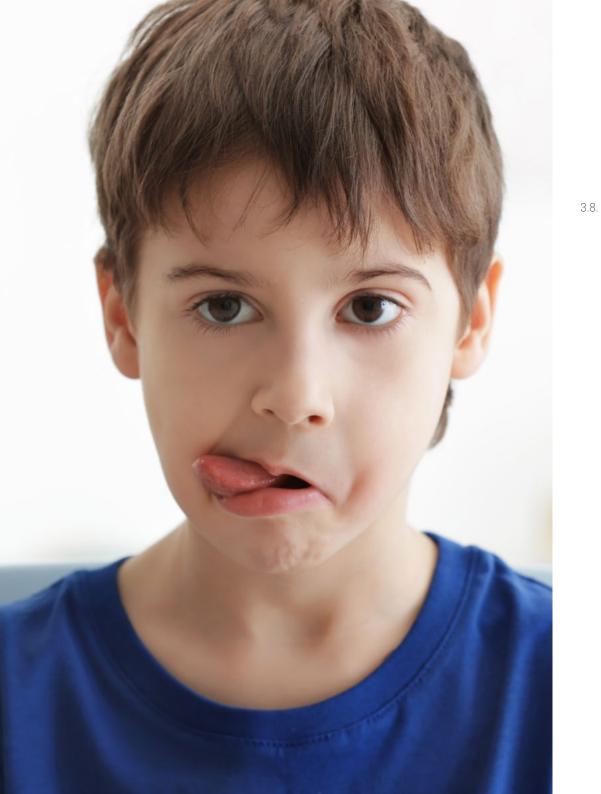
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## tech 38 | Structure and Content

|      | 3.5.7.  | Other Aspects to be Assessed                                |      |
|------|---------|---|------|
|      |         | 3.5.7.1. Chromosomal Assessments                            |      |
|      |         | 3.5.7.2. Neurological Assessments                           |      |
|      |         | 3.5.7.3. Cognitive Assessments                              |      |
|      |         | 3.5.7.4. Motor Assessments                                  |      |
|      |         | 3.5.7.5. Visual Assessments                                 |      |
|      |         | 3.5.7.6. Linguistic Assessments                             |      |
|      |         | 3.5.7.7. Emotional Appraisals                               |      |
|      |         | 3.5.7.8. School Ratings                                     |      |
|      | 3.5.8.  | Standardized Tests and Evaluation Tests                     |      |
|      |         | 3.5.8.1. TALE   |      |
|      |         | 3.5.8.2. PROLEC   |      |
|      |         | 3.5.8.3. DST-J Dyslexia                                     | 3.7. |
|      |         | 3.5.8.4. Other Tests  |      |
|      | 3.5.9.  | The Dytective Test  |      |
|      |         | 3.5.9.1. Contents   |      |
|      |         | 3.5.9.2. Experimental Methodology                           |      |
|      |         | 3.5.9.3. Summary of Results                                 |      |
|      | 3.5.10. | Conclusions and Appendices                                  |      |
| 3.6. | Interve | ntion in Dyslexia   |      |
|      | 3.6.1.  | General Aspects of Intervention                             |      |
|      | 3.6.2.  | Selection of objectives based on the Diagnosed Profile      |      |
|      |         | 3.6.2.1. Analysis of Collected Samples                      |      |
|      | 3.6.3.  | Prioritization and Sequencing of Targets                    |      |
|      |         | 3.6.3.1. Neurobiological Processing                         |      |
|      |         | 3.6.3.2. Psycholinguistic Processing                        |      |
|      | 3.6.4.  | Adequacy of the Objectives to the Contents to be worked on. |      |
|      |         | 3.6.4.1. From the Specific Objective to the Content         |      |
|      | 3.6.5.  | Proposal of Activities by Intervention Area                 |      |
|      |         | 3.6.5.1. Proposals based on the Visual Component            |      |
|      |         | 3.6.5.2. Proposals based on the Phonological Component      |      |
|      |         | 3.6.5.3. Proposals based on Reading Practice                |      |
|      | 3.6.6.  | Programs and Tools for Intervention                         |      |
|      |         | 3.6.6.1. Orton-Gillingham Method                            |      |
|      |         | 3.6.6.2. ACOS Program                                       |      |

|         | 3.6.7.1. Printed Materials                                       |
|---------|--|
|         | 3.6.7.2. Other Materials   |
| 3.6.8.  | Space Organization   |
|         | 3.6.8.1. Lateralization  |
|         | 3.6.8.2. Sensory Modalities                                      |
|         | 3.6.8.3. Eye Movements   |
|         | 3.6.8.4. Visuoperceptual Skills                                  |
|         | 3.6.8.5. Fine Motor Skills                                       |
| 3.6.9.  | Necessary Adaptations in the Classroom                           |
|         | 3.6.9.1. Curricular Adaptations                                  |
| 3.6.10. | Conclusions and Appendices                                       |
| From Tr | raditional to Innovative. New Approach                           |
|         | Introduction   |
| 3.7.2.  | Traditional Education  |
|         | 3.7.2.1. Brief Description of Traditional Education              |
| 3.7.3.  | Current Education  |
|         | 3.7.3.1. The Education of Our Days                               |
| 3.7.4.  | Process of Change  |
|         | 3.7.4.1. Educational Change. From Challenge to Reality           |
| 3.7.5.  | 3  |
|         | 3.7.5.1. Gamification  |
|         | 3.7.5.2. Project-Based Learning                                  |
|         | 3.7.5.3. Others  |
| 3.7.6.  | Changes in the Development of the Intervention Sessions          |
|         | 3.7.6.1. Applying the New Changes in Speech Therapy Intervention |
| 3.7.7.  | Proposal of Innovative Activities                                |
|         | 3.7.7.1. "My Logbook"  |
|         | 3.7.7.2. The Strengths of Each Student                           |
| 3.7.8.  | Development of Materials   |
|         | 3.7.8.1. General Tips and Guidelines                             |
|         | 3.7.8.2. Adaptation of Materials                                 |
|         | 3.7.8.3. Creating our Own Intervention Material                  |
|         | 3.6.9. 3.6.10. From Tr 3.7.1. 3.7.2. 3.7.3. 3.7.4. 3.7.5.        |

3.6.7. Standardized Materials for Intervention



# Structure and Content | 39 **tech**

| 3.7.9.   | The Use of Current Intervention Tools                   |
|----------|---|
|          | 3.7.9.1. Android and iOS Operating System Applications  |
|          | 3.7.9.2. The Use of Computers                           |
|          | 3.7.9.3. Digital Whiteboard                             |
| 3.7.10.  | Conclusions and Appendices                              |
| Strategi | es and Personal Development of the Person with Dyslexia |
| 3.8.1.   | Introduction  |
| 3.8.2.   | Study Strategies  |
|          | 3.8.2.1. Study Techniques                               |
| 3.8.3.   | Organization and Productivity                           |
|          | 3.8.3.1. The Pomodoro Technique                         |
| 3.8.4.   | Tips on How to Face an Exam                             |
| 3.8.5.   | Language Learning Strategies                            |
|          | 3.8.5.1. First Language Assimilation                    |
|          | 3.8.5.2. Phonological and Morphological Awareness       |
|          | 3.8.5.3. Visual Memory                                  |
|          | 3.8.5.4. Comprehension and Vocabulary                   |
|          | 3.8.5.5. Linguistic Immersion                           |
|          | 3.8.5.6. Use of ICT                                     |
|          | 3.8.5.7. Formal Methodologies                           |
| 3.8.6.   | Development of Strengths                                |
|          | 3.8.6.1. Beyond the Person with Dyslexia                |
| 3.8.7.   | Improving Self-concept and Self-esteem                  |
|          | 3.8.7.1. Social Skills                                  |
| 3.8.8.   | Eliminating Myths                                       |
|          | 3.8.8.1. Student with Dyslexia. I Am Not lazy           |
|          | 3.8.8.2. Other Myths                                    |
| 3.8.9.   | Famous People with Dyslexia                             |
|          | 3.8.9.1. Well-known People with Dyslexia                |
|          | 3.8.9.2. Real Testimonials                              |
| 3.8.10.  | Conclusions and Appendices                              |
|          |   |

### tech 40 | Structure and Content

| 3.9.  | Guidelin | nes  |
|-------|----------|--|
|       | 3.9.1.   | Introduction   |
|       | 3.9.2.   | Guidelines for the Person with Dyslexia                                |
|       |          | 3.9.2.1. Coping with the Diagnosis                                     |
|       |          | 3.9.2.2. Guidelines for Daily Living                                   |
|       |          | 3.9.2.3. Guidelines for the Person with Dyslexia as a Learner          |
|       | 3.9.3.   | Guidelines for the Family Environment                                  |
|       |          | 3.9.3.1. Guidelines for Collaborating in the Intervention              |
|       |          | 3.9.3.2. General Guidelines  |
|       | 3.9.4.   | Guidelines for the Educational Context                                 |
|       |          | 3.9.4.1. Adaptations   |
|       |          | 3.9.4.2. Measures to be taken to facilitate the Acquisition of Content |
|       |          | 3.9.4.3. Guidelines to be Followed to Pass Exams                       |
|       | 3.9.5.   | Specific Guidelines for Foreign Language Teachers                      |
|       |          | 3.9.5.1. The Challenge of Language Learning                            |
|       | 3.9.6.   | Guidelines for other Professionals                                     |
|       | 3.9.7.   | Guidelines for the Form of Written Texts                               |
|       |          | 3.9.7.1. Typography  |
|       |          | 3.9.7.2. Font Size   |
|       |          | 3.9.7.3. Colors  |
|       |          | 3.9.7.4. Character, Line, and Paragraph Spacing                        |
|       | 3.9.8.   | Guidelines for Text Content  |
|       |          | 3.9.8.1. Frequency and Length of Words                                 |
|       |          | 3.9.8.2. Syntactic Simplification                                      |
|       |          | 3.9.8.3. Numerical Expressions   |
|       |          | 3.9.8.4. The Use of Graphical Schemes                                  |
|       | 3.9.9.   | Writing Technology   |
|       | 3.9.10.  | Conclusions and Appendices   |
| 3.10. | The Spe  | eech-Language Pathologist's Report on Dyslexia                         |
|       |          | Introduction   |
|       | 3.10.2.  | The Reason for the Evaluation  |
|       |          | 3.10.2.1. Family Referral or Request                                   |
|       | 3.10.3.  | The Interview  |
|       |          | 3.10.3.1. The Family Interview   |
|       |          | 3.10.3.2. The School Interview   |

| 5.10.4.  | The History  |
|----------|--|
|          | 3.10.4.1. Clinical History and Evolutionary Developmen |
|          | 3.10.4.2. Academic History                             |
| 3.10.5.  | The Context  |
|          | 3.10.5.1. The Social Context                           |
|          | 3.10.5.2. The Family Context                           |
| 3.10.6.  | Assessments  |
|          | 3.10.6.1. Psycho-Pedagogical Assessment                |
|          | 3.10.6.2. Speech Therapy Assessment                    |
|          | 3.10.6.3. Other Assessments                            |
| 3.10.7.  | The Results  |
|          | 3.10.7.1. Logopedic Evaluation Results                 |
|          | 3.10.7.2. Results of Other Assessments                 |
| 3.10.8.  | Conclusions  |
|          | 3.10.8.1. Diagnosis                                    |
| 3.10.9.  | Intervention Plan                                      |
|          | 3.10.9.1. The Needs                                    |
|          | 3.10.9.2. The Speech Therapy Intervention Program      |
| 3.10.10. | Conclusions and Appendices                             |
|          |  |

### Module 4. Specific Language Disorder

| 4.1. Background Information | ٦ľ |
|-----------------------------|----|
|-----------------------------|----|

- 4.1.1. Module Presentation
- 4.1.2. Module Objectives
- 4.1.3. Historical Evolution of SLD
- 4.1.4. Late Language Onset vs. SLD SLD
- 4.1.5. Differences between SLD and Language Delay
- 4.1.6. Difference between ASD and SLD
- 4.1.7. Specific Language Disorder vs. Aphasia
- 4.1.8. SLD as a predecessor of Literacy Disorders
- 4.1.9. Intelligence and Specific Language Disorder
- 4.1.10. Prevention of Specific Language Disorder

### Structure and Content | 41 tech

- 4.2. Approach to the Specific Language Disorder
  - 4.2.1. Definition of SLD
  - 4.2.2. General Characteristics of SLD
  - 4.2.3. Prevalence of SLD
  - 4.2.4. Prognosis of SLD
  - 4.2.5. Etiology of SLD
  - 4.2.6. Clinically based classification of SLD
  - 4.2.7. Empirically based classification of SLD
  - 4.2.8. Empirical-clinical based Classification of SLD
  - 4.2.9. Comorbidity of SLD
  - 4.2.10. SLD, Not Only a Difficulty in the Acquisition and Development of Language
- 4.3. Linguistic Characteristics in Specific Language Disorder
  - 4.3.1. Concept of Linguistic Capabilities
  - 4.3.2. General Linguistic Characteristics
  - 4.3.3. Linguistic Studies in SLD in Different Languages
  - 4.3.4. General Alterations in Language Skills Presented by People with SLD
  - 4.3.5. Grammatical Characteristics in SLD
  - 4.3.6. Narrative Features in SLD
  - 4.3.7. Pragmatic Features in SLD
  - 4.3.8. Phonetic and Phonological Features in SLD
  - 4.3.9. Lexical Features in SLD
  - 4.3.10. Preserved Language Skills in SLD
- 4.4. Terminological Change
  - 4.4.1. Changes in the Terminology of SLD
  - 4.4.2. Classification According to DSM
  - 4.4.3. Changes Introduced in the DSM
  - 4.4.4. Consequences of Changes in Classification with the DSM.
  - 4.4.5. New Nomenclature: Language Disorder
  - 4.4.6. Characteristics of Language Disorder
  - 4.4.7. Main Differences and Concordances between SLD and SL
  - 4.4.8. Altered Executive Functions in SLD
  - 4.4.9. Preserved Executive Functions in SL
  - 4.4.10. Detractors of Terminology Change

- 4.5. Assessment in Specific Language Disorder
  - 4.5.1. Speech-Language Evaluation: Prior Information
  - 4.5.2. Early identification of SLD: Prelinguistic Predictors
  - 4.5.3. General Considerations to take into account in the Speech Therapy Evaluation of SLD
  - 4.5.4. Principles of Evaluation in Cases of SLD
  - 4.5.5. The Importance and Objectives of Speech-Language Pathology Assessment in SLD
  - 4.5.6. Evaluation Process of SLD
  - Assessment of Language, Communicative Skills and Executive Functions in SLD
  - 4.5.8. Evaluation Instrument of SLD
  - 4.5.9. Interdisciplinary Evaluation
  - 4.5.10. Diagnosis of TEL
- 4.6. interventions in Specific Language Disorder
  - 4.6.1. The Speech Therapy Intervention
  - 4.6.2. Basic Principles of Speech Therapy Intervention
  - 4.6.3. Environments and Agents of intervention in SLD
  - 4.6.4. Intervention Model in Levels
  - 4.6.5. Early Intervention in SLD
  - 4.6.6. Importance of Intervention in SLD
  - 4.6.7. Music Therapy in the intervention of SLD
  - 4.6.8. Technological Resources in the Intervention of SLD
  - 4.6.9. Intervention in the Executive Functions in SLD
  - 4.6.10. Multidisciplinary Intervention in SLD
- 4.7. Elaboration of a Speech Therapy Intervention Program for Children with Specific Language Disorder
  - 4.7.1. Speech Therapy Intervention Program
  - 4.7.2. Approaches on SLD to Design an Intervention Program
  - 4.7.3. Objectives and Strategies of SLD Intervention Programs
  - 4.7.4. Indications to Follow in the Intervention of Children with SLD
  - 4.7.5. Comprehension Treatment
  - 4.7.6. Treatment of Expression in cases of SLD
  - 4.7.7. Intervention in Reading and Writing
  - 4.7.8. Social Skills Training in SLD
  - 4.7.9. Agents and Timing of Intervention in Cases of SLD
  - 4.7.10. SAACs in the Intervention in Cases of SLD

### tech 42 | Structure and Content

- 4.8. The School in Cases of Specific Language Disorder
  - 4.8.1. The School in Child Development
  - 4.8.2. School Consequences in Children with SLD
  - 4.8.3. Schooling of Children with SLD
  - 4.8.4. Aspects to Take into Account in School Intervention
  - 4.8.5. Objectives of School Intervention in cases of SLD
  - 4.8.6. Guidelines and Strategies for Classroom Intervention with children with SLD
  - 4.8.7. Development and Intervention in Social Relationships within the School
  - 4.8.8. Dynamic Playground Program
  - 4.8.9. The School and the Relationship with other Intervention Agents.
  - 4.8.10. Observation and Monitoring of School Intervention
- 4.9. The Family and its Intervention in Cases of Children with Specific Language Disorder
  - 4.9.1. Consequences of SLD in the Family Environment
  - 4.9.2. Family Intervention Models
  - 4.9.3. General Considerations to be Taken into Account
  - 4.9.4. The importance of Family Intervention in SLD
  - 4.9.5. Family Orientations
  - 4.9.6. Communication Strategies for the Family
  - 4.9.7. Needs of Families of Children with SLD
  - 4.9.8. The Speech Therapist in the Family Intervention
  - 4.9.9. Objectives of the Family Speech Therapy Intervention in the SLD
  - 4.9.10. Follow-up and Timing of the Family Intervention in SLD
- 4.10. Associations and Support Guides for Families and Schools of Children with SLD
  - 4.10.1. Parent Associations
  - 4.10.2. Information Guides
  - 4.10.3. AVATEL
  - 4.10.4. ATELMA
  - 4.10.5. ATELAS
  - 4.10.6. ATELCA
  - 4.10.7. ATEL CLM
  - 4.10.8. Other Associations
  - 4.10.9. SLD Guides Aimed at the Educational Field
  - 4.10.10. SLD Guides and Manuals Aimed at the Family Environment

#### Module 5. Understanding Autism

- 5.1. Temporal Development in its Definition
  - 5.1.1. Theoretical Approaches to ASD
    - 5.1.1.1. Early Definitions
    - 5.1.1.2. Evolution Throughout History
  - 5.1.2. Current Classification of Autism Spectrum Disorder
    - 5.1.2.1. Classification According to DSM-IV
    - 5.1.2.2. DSM-V Definition
  - 5.1.3. Table of Disorders Pertaining to ASD
    - 5.1.3.1. Autism Spectrum Disorder
    - 5.1.3.2. Asperger's Disorder
    - 5.1.3.3. Rett's Disorder
    - 5.1.3.4. Childhood Disintegrative Disorder
    - 5.1.3.5. Pervasive Developmental Disorders
  - 5.1.4. Comorbidity with other Pathologies
    - 5.1.4.1. ASD and ADHD (Attention and/or Hyperactivity Disorder).
    - 5.1.4.2. ASD AND HF (High Functioning)
    - 5.1.4.3. Other Pathologies of Lower Associated Percentage
  - 5.1.5. Differential Diagnosis of Autism Spectrum Disorder
    - 5.1.5.1. Non-Verbal Learning Disorder.
    - 5.1.5.2. NPDD (Perturbing Disorder Not Predetermined)
    - 5.1.5.3. Schizoid Personality Disorder
    - 5.1.5.4. Affective and Anxiety Disorders
    - 5.1.5.5. Tourette's Disorder
    - 5.1.5.6. Representative Table of Specified Disorders
  - 5.1.6. Theory of Mind
    - 5.1.6.1. The Senses
    - 5.1.6.2. Perspectives
    - 5.1.6.3. False Beliefs
    - 5.1.6.4. Complex Emotional States
  - 5.1.7. Weak Central Coherence Theory
    - 5.1.7.1. Tendency of Children with ASD to Focus their Attention on Details in Relation to the Whole
    - 5.1.7.2. First Theoretical Approach (Frith, 1989)
    - 5.1.7.3. Central Coherence Theory Today (2006)

## Structure and Content | 43 tech

| 510       | Theory of Executive Dysfunction                                |
|-----------|--|
| J. 1.O.   | 5.1.8.1. What Do We Know as "Executive Functions"?             |
|           | 5.1.8.2. Planning  |
|           |  |
|           | 5.1.8.3. Cognitive Flexibility 5.1.8.4. Response Inhibition    |
|           | 5.1.8.5. Mentalistic Skills                                    |
|           | 5.1.8.6. Sense of Activity                                     |
| 5.1.9.    | ,  |
| J. 1.9.   | 5.1.9.1. Explanatory Theories put Forward by Baron-Cohen, S    |
|           | 5.1.9.2. Types of Brain  |
|           | 5.1.9.3. Empathy Quotient (EQ)                                 |
|           | 5.1.9.4. Systematization Quotient (SQ)                         |
|           | 5.1.9.5. Autism Spectrum Quotient (ASQ)                        |
| 5.1.10.   | Autism and Genetics  |
|           | 5.1.10.1. Potential Causes of the Disorder                     |
|           | 5.1.10.2. Chromosomopathies and Genetic Alterations            |
|           | 5.1.10.3. Repercussions on Communication                       |
| Detectio  | n  |
| 5.2.1.    | Main Indicators in Early Detection                             |
|           | 5.2.1.1. Warning Signs   |
|           | 5.2.1.2. Warning Signs   |
| 5.2.2. Co | ommunicative Domain in Autism Spectrum Disorder                |
|           | 5.2.2.1. Aspects to take into Account                          |
|           | 5.2.2.2. Warning Signs   |
| 5.2.3.    | Sensorimotor Area  |
|           | 5.2.3.1. Sensory Processing                                    |
|           | 5.2.3.2. Dysfunctions in Sensory Integration                   |
| 5.2.4.    | Social Development   |
|           | 5.2.4.1. Persistent Difficulties in Social Interaction         |
|           | 5.2.4.2. Restricted Patterns of Behavior                       |
| 5.2.5.    | Evaluation Process   |
|           | 5.2.5.1. Developmental Scales                                  |
|           | 5.2.5.2. Tests and Questionnaires for Parents                  |
|           | 5.2.5.3. Standardized Tests for Evaluation by the Professional |

5.2.

|      |           | 5.2.6.2. Case Studies M-CHAT  |
|------|-----------|---|
|      |           | 5.2.6.3. Standardized Tests   |
|      | 5.2.7.    | In-session Observation  |
|      |           | 5.2.7.1. Aspects to Take into Account within the Session  |
|      | 5.2.8.    | Final Diagnosis   |
|      |           | 5.2.8.1. Procedures to be Followed  |
|      |           | 5.2.8.2. Proposed Therapeutic Plan  |
|      | 5.2.9.    | Preparation of the Intervention Process   |
|      |           | 5.2.9.1. Strategies for Intervention on ASD in Early Care   |
|      | 5.2.10.   | Scale for the Detection of Asperger's Syndrome  |
|      |           | 5.2.10.1. Stand-alone Scale for the Detection of Asperger Syndrome and High-Functioning Autism (HF) |
| 5.3. | Identific | cation of Specific Difficulties   |
|      | 5.3.1.    | Protocol to Be Followed   |
|      |           | 5.3.1.1. Factors to Consider  |
|      | 5.3.2.    | Needs Assessment Based on Age and Developmental Level   |
|      |           | 5.3.2.1. Protocol for Screening from 0 to 3 Years of Age  |
|      |           | 5.3.2.2. M-CHAT-R Questionnaire. (16-30 months)   |
|      |           | 5.3.2.3. Follow-up Interview M-CHAT-R/F   |
|      | 5.3.3.    | Fields of Intervention  |
|      |           | 5.3.3.1. Evaluation of the Effectiveness of Psychoeducational Intervention                          |
|      |           | 5.3.3.2. Clinical Practice Guideline Recommendations  |
|      |           | 5.3.3.3. Main Areas of Potential Work   |
|      | 5.3.4.    | Cognitive Area  |
|      |           | 5.3.4.1. Mentalistic Skills Scale   |
|      |           | 5.3.4.2. What Is It? How Do We Apply this Scale in ASD?   |
|      | 5.3.5.    | Communication Area  |
|      |           | 5.3.5.1. Communication Skills in ASD  |
|      |           | 5.3.5.2. We Identify the Demand Based on Developmental Level  |
|      |           | 5.3.5.3. Comparative Tables of Development with ASD and Normotypical Development                    |
|      |           |   |

5.2.6. Data Collection

5.2.6.1. Instruments Used for Screening

# tech 44 | Structure and Content

5.3.6. Eating Disorders

5.4.

|         | 5.3.6.1. Intolerance Chart  |
|---------|---|
|         | 5.3.6.2. Aversion to Textures   |
|         | 5.3.6.3. Eating Disorders in ASD  |
| 5.3.7.  | Social Area   |
|         | 5.3.7.1. SCERTS (Social-Communication, Emotional Regulation, and Transactional Support) |
| 5.3.8.  | Personal Autonomy   |
|         | 5.3.8.1. Daily Living Therapy   |
| 5.3.9.  | Competency Assessment   |
|         | 5.3.9.1. Strengths  |
|         | 5.3.9.2. Reinforcement-Based Intervention   |
| 5.3.10. | Specific Intervention Programs  |
|         | 5.3.10.1. Case Studies and their Results  |
|         | 5.3.10.2. Clinical Discussion   |
| Commu   | unication and Language in Autism Spectrum Disorder                                      |
| 5.4.1.  | Stages in the Development of Normotypical Language                                      |
|         | 5.4.1.1. Comparative Table of Language Development in Patients with and without ASD.    |
|         | 5.4.1.2. Specific Language Development in Autistic Children                             |
| 5.4.2.  | Communication Deficits in ASD   |
|         | 5.4.2.1. Aspects to Take into Account in the Early Stages of Development                |
|         | 5.4.2.2. Explanatory Table with Factors to Take into Account During These Early Stages  |
| 5.4.3.  | Autism and Language Pathology   |
|         | 5.4.3.1. ASD and Dysphasia  |
| 5.4.4.  | Preventive Education  |
|         | 5.4.4.1. Introduction to Prenatal Infant Development                                    |
| 5.4.5.  | From 0 to 3 Years Old   |
|         | 5.4.5.1. Developmental Scales   |
|         | 5.4.5.2. Implementation and Monitoring of Individualized Intervention Plans (IIP)       |
| 5.4.6.  | CAT Means-Methodology   |
|         | 5.4.6.1. Nursery School (NS)  |
|         |   |
|         |   |



## Structure and Content | 45 tech

| 5.4.7.  | From 3 to 6 Years Old  |
|---------|--|
|         | 5.4.7.1. Schooling in Normal Center  |
|         | 5.4.7.2. Coordination of the Professional with the Follow-up by the Pediatrician and Neuropediatrician |
|         | 5.4.7.3. Communication Skills to be Developed within this Age Range                                    |
|         | 5.4.7.4. Aspects to take into Account  |
| 5.4.8.  | School Age   |
|         | 5.4.8.1. Main Aspects to Take into Account   |
|         | 5.4.8.2. Open Communication with the Teaching Staff  |
|         | 5.4.8.3. Types of Schooling  |
| 5.4.9.  | Educational Environment  |
|         | 5.4.9.1. Bullying  |
|         | 5.4.9.2. Emotional Impact  |
| 5.4.10. | Warning Signs  |
|         | 5.4.10.1. Guidelines for Action  |
|         | 5.4.10.2. Conflict Resolution  |
| Commu   | nication Systems   |
| 5.5.1.  | Available Tools  |
|         | 5.5.1.1. TIC Tools for Children with Autism  |
|         | 5.5.1.2. Augmentative and Alternative Communication Systems (AACS)                                     |
| 5.5.2.  | Communication Intervention Models  |
|         | 5.5.2.1. Facilitated Communication (FC)  |
|         | 5.5.2.2. Verbal Behavioral Approach (VB)   |
| 5.5.3.  | Alternative and/or Augmentative Communication Systems  |
|         | 5.5.3.1. PEC's (Picture Exchange Communication System  |
|         | 5.5.3.2. Benson Schaeffer Total Signed Speech System   |
|         | 5.5.3.3. Sign Language   |
|         | 5.5.3.4. Bimodal System  |
| 5.5.4.  | Alternative Therapies  |
|         | 5.5.4.1. Hotehpotch  |
|         | 5.5.4.2. Alternative Medicines   |
|         | 5.5.4.3. Cognitive-Behavioral  |
|         |  |

5.5.

|          | 5.5.5.1. Factors to Consider  |
|----------|---|
|          | 5.5.5.2. Decision Making  |
| 5.5.6.   | Scale of Objectives and Priorities to be Developed  |
|          | 5.5.6.1. Assessment, Based on the Resources Available to the Student, of the System Best Suited to their Capabilities       |
| 5.5.7.   | Identification of the Appropriate System  |
|          | 5.5.7.1. We Implement the Most Appropriate Communication System or Therapy Taking into Account the Strengths of the Patient |
| 5.5.8.   | Implementation  |
|          | 5.5.8.1. Planning and Structuring of the Sessions   |
|          | 5.5.8.2. Duration and Timing  |
|          | 5.5.8.3. Evolution and Estimated Short-Term Objectives  |
| 5.5.9.   | Monitoring  |
|          | 5.5.9.1. Longitudinal Evaluation  |
|          | 5.5.9.2. Re-evaluation Over Time  |
| 5.5.10.  | Adaptation Over Time  |
|          | 5.5.10.1. Restructuring of Objectives Based on Demanded Needs   |
|          | $5.5.10.2.\ Adaptation\ of\ the\ Intervention\ according\ to\ the\ Results\ Obtained$                                       |
| Elaborat | ion of an Intervention Program  |
| 5.6.1.   | Identification of Needs and Selection of Objectives   |
|          | 5.6.1.1. Early Care Intervention Strategies   |
|          | 5.6.1.2. Denver Model   |
| 5.6.2.   | Analysis of Objectives based on Developmental Levels  |
|          | 5.6.2.1. Intervention Program to Strengthen communicative and Linguistic Areas  |
| 5.6.3.   | Development of Preverbal Communicative Behaviors  |
|          | 5.6.3.1 Applied Behavior Analysis   |
| 5.6.4.   | Bibliographic Review of Theories and Programs in Childhood Autism.  |
|          | 5.6.4.1. Scientific Studies with Groups of Children with ASD  |
|          | 5.6.4.2. Results and Final Conclusions based on the Proposed Programs   |
| 5.6.5.   | School Age  |
|          | 5.6.5.1. Educational Inclusion  |
|          | 5.6.5.2. Global Reading as a Facilitator of Integration in the Classroom  |

5.5.5. Choice of System

5.6.

## tech 46 | Structure and Content

5.7.

| 5.6.6.  | Adulthood   |      | 5.7.7.  | Development of Materials   |
|---------|---|------|---------|--|
|         | 5.6.6.1. How to Intervene/Support in Adulthood?                           |      |         | 5.7.7.1. Sources Used  |
|         | 5.6.6.2. Elaboration of a Specific Program                                |      |         | 5.7.7.2. Image Banks   |
| 5.6.7.  | Behavioral Intervention   |      |         | 5.7.7.3. Pictogram Banks   |
|         | 5.6.7.1. Applied Behavior Analysis (ABA)                                  |      |         | 5.7.7.4. Recommended Materials   |
|         | 5.6.7.2. Training of Separate Trials                                      |      | 5.7.8.  | Free Resources to Support Learning                                       |
| 5.6.8.  | Combined Intervention   |      |         | 5.7.8.1. List of Reinforcement Pages with Programs to Reinforce Learning |
|         | 5.6.8.1. The TEACCH Model   |      | 5.7.9.  | SPC  |
| 5.6.9.  | Support for University Integration of Grade I ASD                         |      |         | 5.7.9.1. Access to the Pictographic Communication System                 |
|         | 5.6.9.1. Best Practices for Supporting Students in Higher Education       |      |         | 5.7.9.2. Methodology   |
| 5.6.10. | Positive Behavioral Reinforcement   |      |         | 5.7.9.3. Main Function   |
|         | 5.6.10.1. Program Structure   |      | 5.7.10. | Implementation   |
|         | 5.6.10.2. Guidelines to Follow to Carry Out the Method                    |      |         | 5.7.10.1. Selection of the Appropriate Program                           |
| Educati | ional Materials and Resources   |      |         | 5.7.10.2. List of Benefits and Disadvantages                             |
| 5.7.1.  | What can we do as Speech Therapists?                                      | 5.8. | Adaptin | g the Environment to the student with Autism Spectrum Disorder           |
|         | 5.7.1.1. Professional as an Active Role in the Development and Continuous |      | 5.8.1.  | General Considerations to be Taken into Account                          |
|         | Adaptation of Materials   |      |         | 5.8.1.1. Possible Difficulties within the Daily Routine                  |
| 5.7.2.  | List of Adapted Resources and Materials                                   |      | 5.8.2.  | Implementation of Visual Aids  |
|         | 5.7.2.1. What Should I Consider?  |      |         | 5.8.2.1. Guidelines to Have at Home for Adaptation                       |
|         | 5.7.2.2. Brainstorming  |      | 5.8.3.  | Classroom Adaptation   |
| 5.7.3.  | Methods   |      |         | 5.8.3.1. Inclusive Teaching  |
|         | 5.7.3.1. Theoretical Approach to the Most Commonly Used Methods           |      | 5.8.4.  | Natural Environment  |
|         | 5.7.3.2. Functionality Comparative Table with the Methods Presented       |      |         | 5.8.4.1 General Guidelines for Educational Response                      |
| 5.7.4.  | TEACCH Program  |      | 5.8.5.  | Intervention in Autism Spectrum Disorders and other Severe Personality   |
|         | 5.7.4.1. Educational Principles Based on this Method                      |      |         | Disorders  |
|         | 5.7.4.2. Characteristics of Autism as a Basis for Structured Teaching     |      | 5.8.6.  | Curricular Adaptations of the Center                                     |
| 5.7.5.  | INMER Program   |      |         | 5.8.6.1. Heterogeneous Groupings   |
|         | 5.7.5.1. Fundamental Bases of the Program Main Function                   |      | 5.8.7.  |  |
|         | 5.7.5.2. Virtual Reality Immersion System for People with Autism          |      |         | 5.8.7.1. Individual Curricular Adaptation                                |
| 5.7.6.  | ICT-mediated Learning   |      |         | 5.8.7.2. Limitations   |
|         | 5.7.6.1. Software for Teaching Emotions                                   |      | 5.8.8.  | Curricular Adaptations in the Classroom                                  |
|         | 5.7.6.2. Applications that favour Language Development                    |      |         | 5.8.8.1. Cooperative Education   |
|         |   |      |         | 5.8.8.2. Cooperative Learning  |
|         |   |      | 5.8.9.  | Educational Responses to the Different Needs Demanded                    |
|         |   |      |         | 5.8.9.1. Tools to be Taken into Account for Effective Teaching           |

### Structure and Content | 47 tech

| 5.8.10. | Relationship with the Social and Cultural Environment                    |
|---------|--|
|         | 5.8.10.1. Habits-Autonomy  |
|         | 5.8.10.2. Communication and Socialization                                |
| School  | Context  |
| 5.9.1.  | Classroom Adaptation   |
|         | 5.9.1.1. Factors to Consider   |
|         | 5.9.1.2. Curricular Adaptation   |
| 5.9.2.  | School Inclusion   |
|         | 5.9.2.1. We All Add Up   |
|         | 5.9.2.2. How to Help from our Role as Speech-Language Therapist?         |
| 5.9.3.  | Characteristics of Students with ASD                                     |
|         | 5.9.3.1. Restricted Interests  |
|         | 5.9.3.2. Sensitivity to the Context and its Constraints                  |
| 5.9.4.  | Characteristics of Students with Asperger's                              |
|         | 5.9.4.1. Potentialities  |
|         | 5.9.4.2. Difficulties and Repercussions at the Emotional Level           |
|         | 5.9.4.3. Relationship with the Peer Group                                |
| 5.9.5.  | Placement of the Student in the Classroom                                |
|         | 5.9.5.1. Factors to be Taken into Account for Proper Student Performance |
| 5.9.6.  | Materials and Supports to Consider                                       |
|         | 5.9.6.1. External Support  |
|         | 5.9.6.2. Teacher as a Reinforcement Element within the Classroom         |
| 5.9.7.  | Assessment of Task Completion Times                                      |
|         | 5.9.7.1. Application of Tools such as Anticipators or Timers             |
| 5.9.8.  | Inhibition Times   |
|         | 5.9.8.1. Reduction of Inappropriate Behavior Through Visual Support      |
|         | 5.9.8.2. Visual Schedules  |
|         | 5.9.8.3. Time-Outs   |
| 5.9.9.  | Hypo- and Hypersensitivity   |
|         | 5.9.9.1. Noise Environment   |
|         | 5.9.9.2. Stress-Generating Situations                                    |
| 5.9.10. | Anticipation of Conflict Situations                                      |
|         | 5.9.10.1. Back to School Time of Entry and Exit                          |
|         | 5.9.10.2. Canteen  |
|         | 5.9.10.3. Vacations  |

5.9.

5.10. Considerations to Be Taken into Account With Families 5.10.1. Conditioning Factors of Parental Stress and Anxiety 5.10.1.1. How Does the Family Adaptation Process Occur? 5.10.1.2. Most Common Worries 5.10.1.3. Anxiety Management 5.10.2. Information for Parents When a Diagnosis is Suspected 5.10.2.1. Open Communication 5.10.2.2. Stress Management Guidelines 5.10.3. Assessment Records for Parents 5.10.3.1. Strategies for the Management of Suspected ASD in Early Care 5.10.3.2. PEDs. Questions About Parents' Developmental Concerns 5.10.3.3. Situation Assessment and Building a Bond of Trust with Parents 5.10.4. Multimedia Resources 5.10.4.1. Table of Freely Available Resources 5.10.5. Associations of Families of People with ASD 5.10.5.1. List of Recognized and Proactive Associations 5.10.6. Return of Therapy and Appropriate Evolution 5.10.6.1. Aspects to Take into Account for Information Exchange 5.10.6.2. Creation of Empathy 5.10.6.3. Creation of a Circle of Trust between Therapist-Relatives-Patient 5.10.7. Return of the Diagnosis and Follow-up to the Different Healthcare Professionals 5.10.7.1. Speech Therapist in their Active and Dynamic role. 5.10.7.2. Contact with the Different Health Areas 5.10.7.3. The Importance of Maintaining a Common Line 5.10.8. Parents, How to Intervene with the Child? 5.10.8.1. Advice and Guidelines 5.10.8.2. Family Respite 5.10.9. Generation of Positive Experiences in the Family Environment 5.10.9.1. Practical Tips for Reinforcing Pleasant Experiences in the Family Environment 5.10.9.2. Proposals for Activities that Generate Positive Experiences

5.10.10. Websites of Interest

5.10.10.1. Links of Interest

### tech 48 | Structure and Content

#### Module 6. Genetic Syndromes

- 6.1. Introduction to Genetic Syndromes6.1.1. Introduction to Unit6.1.2. Genetics
  - 6.1.2.1. Concept of Genetics6.1.2.2. Genes and Chromosomes
  - 6.1.3. The Evolution of Genetics
    6.1.3.1. Basis of Genetics
    6.1.3.2. The Pioneers of Genetics
    6.1.4. Basic Concepts of Genetics
    - 6.1.4.1. Genotype and Phenotype 6.1.4.2. The Genome 6.1.4.3. DNA
      - 6.1.4.4. RNA 6.1.4.5. Genetic Code
  - 6.1.5. Mendel's Laws6.1.5.1. Mendel's 1st Law6.1.5.2. Mendel's 2nd Law6.1.5.3. Mendel's 3rd Law
  - 6.1.6. Mutations
    6.1.6.1. What are Mutations?
    6.1.6.2. Levels of Mutations
    6.1.6.3. Types of Mutations
    6.1.7. Concept of Syndrome
  - 6.1.8. Classification6.1.9. The Most Frequent Syndromes
  - 6.1.10. Final Conclusions

- 6.2. Down Syndrome
  - 6.2.1. Introduction to Unit 6.2.1.1. History of Down Syndrome
  - 6.2.2. Concept of Down Syndrome
    - 6.2.2.1. What is Down Syndrome?
    - 6.2.2.2. Genetics of Down Syndrome
    - 6.2.2.3. Chromosomal Alterations in Down Syndrome
      - 6.2.2.2.1. Trisomy 21
      - 6.2.2.2. Chromosomal Translocation
      - 6.2.2.2.3. Mosaicism or Mosaic Trisomy
    - 6.2.2.4. Prognosis of Down Syndrome
  - 6.2.3. Etiology
    6.2.3.1. The Origin of Down Syndrome
  - 6.2.4. Prevalence 6.2.4.1. Prevalence of Down Syndrome in Other Countries
  - 6.2.5. Characteristics of Down Syndrome 6.2.5.1. Physical Characteristics
    - 6.2.5.2. Speech and Language Development Characteristics
    - 6.2.5.3. Motor Developmental Characteristics
  - 6.2.6. Comorbidity of Down Syndrome
    - 6.2.6.1. What is Comorbidity?
    - 6.2.6.2. Comorbidity in Down Syndrome
    - 6.2.6.3. Associated Disorders
  - 6.2.7. Diagnosis and Evaluation of Down Syndrome
    - 6.2.7.1. The Diagnosis of Down Syndrome
      - 6.2.7.1.1. Where is It Performed?
      - 6.2.7.1.2. Who Performs It?
      - 6.2.7.1.3. When can it be Performed?
    - 6.2.7.2. Speech Therapy Evaluation of Down Syndrome
      - 6.2.7.2.1. Medical History
      - 6.2.7.2.2. Areas to Consider

| 6.2.8.  | Speech Therapy Based Intervention                                 |
|---------|---|
|         | 6.2.8.1. Aspects to take into Account                             |
|         | 6.2.8.2. Setting Objectives for the Intervention                  |
|         | 6.2.8.3. Material for Rehabilitation                              |
|         | 6.2.8.4. Resources to be Used                                     |
| 6.2.9.  | Guidelines  |
|         | 6.2.9.1. Guidelines for the Person with Down Syndrome to Consider |
|         | 6.2.9.2. Guidelines for the Family to Consider                    |
|         | 6.2.9.3. Guidelines for the Educational Context                   |
|         | 6.2.9.4. Resources and Associations                               |
| 6.2.10. | The Interdisciplinary Team  |
|         | 6.2.10.1. The Importance of the Interdisciplinary Team            |
|         | 6.2.10.2. Speech Therapy  |
|         | 6.2.10.3. Occupational Therapy                                    |
|         | 6.2.10.4. Physiotherapy   |
|         | 6.2.10.5. Psychology  |
| Hunter  | Syndrome  |
| 6.3.1.  | Introduction to Unit  |
|         | 6.3.1.1. History of Hunter Syndrome                               |
| 6.3.2.  | Concept of Hunter Syndrome  |
|         | 6.3.2.1. What is Hunter Syndrome?                                 |
|         | 6.3.2.2. Genetics of Hunter Syndrome                              |
|         | 6.3.2.3. Prognosis of Hunter Syndrome                             |
| 6.3.3.  | Etiology  |
|         | 6.3.3.1. The Origin of Hunter Syndrome                            |
| 6.3.4.  | Prevalence  |
|         | 6.3.4.1. Hunter Syndrome in Other Countries                       |
| 6.3.5.  | Main Impacts  |
|         | 6.3.5.1. Physical Characteristics                                 |
|         | 6.3.5.2. Speech and Language Development Characteristics          |
|         | 6.3.5.3. Motor Developmental Characteristics                      |
| 6.3.6.  | Comorbidity of Hunter Syndrome                                    |
|         | 6.3.6.1. What is Comorbidity?                                     |
|         | 6.3.6.2. Comorbidity in Hunter Syndrome                           |
|         | 6.3.6.3. Associated Disorders                                     |

6.3.

| 6.3.7.    | Diagnosis and Evaluation of Hunter Syndrome                         |
|-----------|---|
|           | 6.3.7.1. The Diagnosis of Hunter Syndrome                           |
|           | 6.3.7.1.1. Where is It Performed?                                   |
|           | 6 3 7 1 2 Who Performs It?  |
|           | 6.3.7.1.3. When can it be Performed?                                |
|           | 6.3.7.2. Speech Therapy Evaluation of Hunter Syndrome               |
|           | 6.3.7.2.1. Medical History  |
|           |   |
| 600       | 6.3.7.2.2. Areas to Consider  |
| 6.3.8.    | Speech Therapy Based Intervention                                   |
|           | 6.3.8.1. Aspects to take into Account                               |
|           | 6.3.8.2. Setting Objectives for the Intervention                    |
|           | 6.3.8.3. Material for Rehabilitation                                |
|           | 6.3.8.4. Resources to be Used                                       |
| 6.3.9.    | Guidelines  |
|           | 6.3.9.1. Guidelines to Consider for the Person with Hunter Syndrome |
|           | 6.3.9.2. Guidelines for the Family to Consider                      |
|           | 6.3.9.3. Guidelines for the Educational Context                     |
|           | 6.3.9.4. Resources and Associations                                 |
| 6.3.10.   | The Interdisciplinary Team  |
|           | 6.3.10.1. The Importance of the Interdisciplinary Team              |
|           | 6.3.10.2. Speech Therapy  |
|           | 6.3.10.3. Occupational Therapy                                      |
|           | 6.3.10.4. Physiotherapy   |
|           | 6.3.10.5. Psychology  |
| Fragile 2 | X Syndrome  |
| 6.4.1.    | Introduction to Unit  |
|           | 6.4.1.1. History of Fragile X Syndrome                              |
| 6.4.2.    | Concept of Fragile X Syndrome                                       |
|           | 6.4.2.1. What is Fragile X Syndrome?                                |
|           | 6.4.2.2. Genetics of Fragile X Syndrome                             |
|           | 6.4.2.3. Prognosis of Fragile X Syndrome                            |
| 6.4.3.    | Etiology  |
|           | 6.4.3.1. The Origin of Fragile X Syndrome                           |
| 6.4.4.    | Prevalence  |
|           |   |

6.4.4.1. Fragile X Syndrome in Other Countries

6.4.

## tech 50 | Structure and Content

| 6.4.5.  | Main Impacts   | 6.5. | Rett Sy | ndrome   |
|---------|--|------|---------|--|
|         | 6.4.5.1. Physical Characteristics  |      | 6.5.1.  | Introduction to Unit   |
|         | 6.4.5.2. Speech and Language Development Characteristics                 |      |         | 6.5.1.1. History of Rett Syndrome                              |
|         | 6.4.5.3. Characteristics in the Development of Intelligence and Learning |      | 6.5.2.  | Concept of Rett Syndrome                                       |
|         | 6.4.5.4. Social, Emotional, and Behavioral Characteristics               |      |         | 6.5.2.1. What is Rett Syndrome?                                |
|         | 6.4.5.5. Sensory Characteristics   |      |         | 6.5.2.2. Genetics of Rett Syndrome                             |
| 6.4.6.  | Comorbidity of Fragile X Syndrome  |      |         | 6.5.2.3. Prognosis of Rett Syndrome                            |
|         | 6.4.6.1. What is Comorbidity?  |      | 6.5.3.  | Etiology   |
|         | 6.4.6.2. Comorbidity of Fragile X Syndrome                               |      |         | 6.5.3.1. The Origin of Rett Syndrome                           |
|         | 6.4.6.3. Associated Disorders  |      | 6.5.4.  | Prevalence   |
| 6.4.7.  | Diagnosis and Evaluation of Fragile X Syndrome                           |      |         | 6.5.4.1. Rett Syndrome in Other Countries                      |
|         | 6.4.7.1. The Diagnosis of Fragile X Syndrome                             |      |         | 6.5.4.2. Stages in The Development of Rett Syndrome            |
|         | 6.4.7.1.1. Where is It Performed?  |      |         | 6.5.4.2.1. Stage I: Early Onset Stage                          |
|         | 6.4.7.1.2. Who Performs It?  |      |         | 6.5.4.2.2. Stage II: Accelerated Destruction Stage             |
|         | 6.4.7.1.3. When can it be Performed?                                     |      |         | 6.5.4.2.3. Stage III: Stabilization or Pseudo-Stationary Stage |
|         | 6.4.7.2. Logopedic Evaluation of Fragile X Syndrome                      |      |         | 6.5.4.2.4. Stage IV: Late Motor Impairment Stage               |
|         | 6.4.7.2.1. Medical History   |      | 6.5.5.  | Comorbidity of Rett Syndrome                                   |
|         | 6.4.7.2.2. Areas to Consider   |      |         | 6.5.5.1. What is Comorbidity?                                  |
| 6.4.8.  | Speech Therapy Based Intervention  |      |         | 6.5.5.2. Comorbidity in Rett Syndrome                          |
|         | 6.4.8.1. Aspects to take into Account                                    |      |         | 6.5.5.3. Associated Disorders                                  |
|         | 6.4.8.2. Setting Objectives for the Intervention                         |      | 6.5.6.  | Main Impacts   |
|         | 6.4.8.3. Material for Rehabilitation                                     |      |         | 6.5.6.1. Introduction  |
|         | 6.4.8.4. Resources to be Used  |      |         | 6.5.6.2. Physical Characteristics                              |
| 6.4.9.  | Guidelines   |      |         | 6.5.6.3. Clinical Characteristics                              |
|         | 6.4.9.1. Guidelines to Consider for the Person with Fragile X Syndrome   |      | 6.5.7.  | Diagnosis and Evaluation of Rett Syndrome                      |
|         | 6.4.9.2. Guidelines for the Family to Consider                           |      |         | 6.5.7.1. The Diagnosis of Rett Syndrome                        |
|         | 6.4.9.3. Guidelines for the Educational Context                          |      |         | 6.5.7.1.1. Where is It Performed?                              |
|         | 6.4.9.4. Resources and Associations                                      |      |         | 6.5.7.1.2. Who Performs It?                                    |
| 6.4.10. | The Interdisciplinary Team   |      |         | 6.5.7.1.3. When can it be Performed?                           |
|         | 6.4.10.1. The Importance of the Interdisciplinary Team                   |      |         | 6.5.7.2. Speech Therapy Evaluation of Rett Syndrome            |
|         | 6.4.10.2. Speech Therapy   |      |         | 6.5.7.2.1. Medical History                                     |
|         | 6.4.10.3. Occupational Therapy   |      |         | 6.5.7.2.2. Areas to Consider                                   |
|         | 6.4.10.4. Physiotherapy  |      |         |  |

## Structure and Content | 51 tech

| 6.5.8.   | Speech Therapy Based Intervention  |
|----------|--|
|          | 6.5.8.1. Aspects to take into Account  |
|          | 6.5.8.2. Setting Objectives for the Intervention                                 |
|          | 6.5.8.3. Material for Rehabilitation   |
|          | 6.5.8.4. Resources to be Used  |
| 6.5.9.   | Guidelines   |
|          | 6.5.9.1. Guidelines to Consider for the Person with Rett Syndrome                |
|          | 6.5.9.2. Guidelines for the Family to Consider                                   |
|          | 6.5.9.3. Guidelines for the Educational Context                                  |
|          | 6.5.9.4. Resources and Associations  |
| 6.5.10.  | The Interdisciplinary Team   |
|          | 6.5.10.1. The Importance of the Interdisciplinary Team                           |
|          | 6.5.10.2. Speech Therapy   |
|          | 6.5.10.3. Occupational Therapy   |
|          | 6.5.10.4. Physiotherapy  |
| Smith-N  | Magenis Syndrome   |
| 6.6.1 Sr | nith-Magenis Syndrome  |
|          | 6.6.1.1. Introduction  |
|          | 6.6.1.2. Concept   |
| 6.6.2.   | Etiology   |
| 6.6.3.   | Epidemiology   |
| 6.6.4.   | Development according to Stages  |
|          | 6.6.4.1. Infants (up to 2 Years of Age)  |
|          | 6.6.4.2. Childhood (from 2 to 12 Years of Age)                                   |
|          | 6.6.4.2.1. Adolescence and Adulthood (from 12 Years of Age)                      |
| 6.6.5.   | Differential Diagnosis   |
| 6.6.6.   | Clinical, Cognitive, Behavioral, and Physical Features of Smith-Magenis Syndrome |
|          | 6.6.6.1. Clinical Characteristics  |
|          | 6.6.6.2. Cognitive and Behavioral Characteristics                                |
|          | 6.6.6.3. Physical Characteristics  |
| 6.6.7.   | Speech Therapy Evaluation in Smith-Magens Syndrome                               |
|          |  |

6.6.

| 6.6.8.   | Speech Therapy Intervention in Smith-Magenis Syndrome                           |
|----------|---|
|          | 6.6.8.1. General Considerations for starting the Intervention                   |
|          | 6.6.8.2. Stages of the Intervention Process                                     |
|          | 6.6.8.3. Communicative Aspects of Intervention                                  |
| 6.6.9.   | Speech Therapy Exercises for Smith-Magenis Syndrome                             |
|          | 6.6.9.1. Auditory Stimulation Exercises: Sounds and Words                       |
|          | 6.6.9.2. Exercises to Promote Grammatical Structures                            |
|          | 6.6.9.3. Exercises to Increase Vocabulary                                       |
|          | 6.6.9.4. Exercises to Improve the Use of Language                               |
|          | 6.6.9.5. Exercises for Problem Solving and Reasoning                            |
| 6.6.10.  | Associations to Help Patients and Families of Smith-Magenis Syndrome            |
| Williams | s Syndrome  |
| 6.7.1.   | Williams Syndrome   |
|          | 6.7.1.1. History of Williams Syndrome   |
|          | 6.7.1.2. Concept of Williams Syndrome   |
| 6.7.2.   | Etiology of Williams Syndrome   |
| 6.7.3.   | Epidemiology of Williams Syndrome   |
| 6.7.4.   | Diagnosis of Williams Syndrome  |
| 6.7.5.   | Speech Therapy Evaluation of Williams Syndrome                                  |
| 6.7.6.   | Characteristics of Williams Syndrome  |
|          | 6.7.6.1. Medical Aspects  |
|          | 6.7.6.2. Facial Features  |
|          | 6.7.6.3. Hyperacusis  |
|          | 6.7.6.4. Neuroanatomical Features   |
|          | 6.7.6.5. Language Characteristics   |
|          | 6.7.6.5.1. Early Language Development   |
|          | 6.7.6.5.2. Characteristics of Language in the WS from 4 Years of Age<br>Onwards |
|          | 6.7.6.6. Socio-Affective Characteristics in Williams Syndrome                   |
| 6.7.7.   | Speech Therapy Intervention in Early Care in Children with Williams Syndrome    |
| 6.7.8.   | Speech Therapy Intervention at School with Williams Syndrome                    |
| 6.7.9.   | Speech Therapy Intervention in Adulthood with Williams syndrome                 |

6.7.

6.7.10. Associations

## tech 52 | Structure and Content

| 6.8. | Angelm | nan Syndrome  |
|------|--------|---|
|      | 6.8.1. | Introduction to Unit                                    |
|      |        | 6.8.1.1. History of Angelman Syndrome                   |
|      | 6.8.2. | Concept of Angelman Syndrome                            |
|      |        | 6.8.2.1. What is Angelman Syndrome?                     |
|      |        | 6.8.2.2. Genetics of Angelman Syndrome                  |
|      |        | 6.8.2.3. Prognosis of Angelman Syndrome                 |
|      | 6.8.3. | Etiology  |
|      |        | 6.8.3.1. The origin of Angelman Syndrome                |
|      | 6.8.4. | Prevalence  |
|      |        | 6.8.4.1. Angelman Syndrome in Other Countries           |
|      | 6.8.5. | Main Impacts  |
|      |        | 6.8.5.1. Introduction                                   |
|      |        | 6.8.5.2. Frequent Manifestations of Angelman Syndrome   |
|      |        | 6.8.5.3. Rare Manifestations                            |
|      | 6.8.6. |   |
|      |        | 6.8.6.1. What is Comorbidity?                           |
|      |        | 6.8.6.2. Comorbidity in Angelman Syndrome               |
|      |        | 6.8.6.3. Associated Disorders                           |
|      | 6.8.7. | Diagnosis and Evaluation of Angelman Syndrome           |
|      |        | 6.8.7.1. The Diagnosis of Angelman Syndrome             |
|      |        | 6.8.7.1.1. Where is It Performed?                       |
|      |        | 6.8.7.1.2. Who Performs It?                             |
|      |        | 6.8.7.1.3. When can it be Performed?                    |
|      |        | 6.8.7.2. Speech Therapy Evaluation of Angelman Syndrome |
|      |        | 6.8.7.2.1. Medical History                              |
|      |        | 6.8.7.2.2. Areas to Consider                            |
|      | 6.8.8. | Speech Therapy Based Intervention                       |
|      |        | 6.8.8.1. Aspects to take into Account                   |
|      |        | 6.8.8.2. Setting Objectives for the Intervention        |
|      |        | 6.8.8.3. Material for Rehabilitation                    |
|      |        | 6.8.8.4. Resources to be Used                           |

|         | 6.8.9.1. Guidelines to Consider for the Person with Angelman Syndrome |
|---------|---|
|         | 6.8.9.2. Guidelines for the Family to Consider                        |
|         | 6.8.9.3. Guidelines for the Educational Context                       |
|         | 6.8.9.4. Resources and Associations                                   |
| 6.8.10. | The Interdisciplinary Team  |
|         | 6.8.10.1. The Importance of the Interdisciplinary Team                |
|         | 6.8.10.2. Speech Therapy  |
|         | 6.8.10.3. Occupational Therapy  |
|         | 6.8.10.4. Physiotherapy   |
| Duchen  | ne Disease  |
| 6.9.1.  | Introduction to Unit  |
|         | 6.9.1.1. History of Duchenne Disease                                  |
| 6.9.2.  | Concept of Duchenne Disease   |
|         | 6.9.2.1. What is Duchenne Disease?                                    |
|         | 6.9.2.2. Genetics of Duchenne Disease                                 |
|         | 6.9.2.3. Prognosis of Duchenne Disease                                |
| 6.9.3.  | Etiology  |
|         | 6.9.3.1. The Origin of Duchenne Disease                               |
| 6.9.4.  |   |
|         | 6.9.4.1. Prevalence of Duchenne Disease in Other Countries            |
| 6.9.5.  | ·   |
|         | 6.9.5.1. Introduction   |
|         | 6.9.5.2. Clinical Manifestations of Duchenne Disease                  |
|         | 6.9.5.2.1. Speech Delay   |
|         | 6.9.5.2.2. Behavioral Problems  |
|         | 6.9.5.2.3. Muscle Weakness  |
|         | 6.9.5.2.4. Stiffness  |
|         | 6.9.5.2.5. Lordosis   |
|         | 6.9.5.2.6. Respiratory Dysfunction                                    |
|         | 6.9.5.3. Most common Symptoms of Duchenne Disease                     |
| 6.9.6.  | Comorbidity of Duchenne Disease                                       |
|         | 6.9.6.1. What is Comorbidity?   |
|         | 6.9.6.2. Comorbidity of Duchenne Disease                              |
|         | 6.9.6.3. Associated Disorders   |

6.8.9. Guidelines

6.9.

6.9.7. Diagnosis and Evaluation of Duchenne Disease 6.9.7.1. The Diagnosis of Duchenne Disease 6.9.7.1.1. Where is It Performed? 6.9.7.1.2. Who Performs It? 6.9.7.1.3. When can it be Performed? 6.9.7.2. Speech Therapy Evaluation of Duchenne Disease 6.9.7.2.1. Medical History 6.9.7.2.2. Areas to Consider 6.9.8. Speech Therapy Based Intervention 6.9.8.1. Aspects to take into Account 6.9.8.2. Setting Objectives for the Intervention 6983 Material for Rehabilitation 6.9.8.4. Resources to be Used 6.9.9. Guidelines 6.9.9.1. Guidelines to be Considered by the Person with Duchenne Disease 6.9.9.2. Guidelines for the Family to Consider 6.9.9.3. Guidelines for the Educational Context. 6.9.9.4 Resources and Associations 6.9.10. The Interdisciplinary Team 6.9.10.1. The Importance of the Interdisciplinary Team 6.9.10.2. Speech Therapy 6.9.10.3. Occupational Therapy 6.9.10.4. Physiotherapy 6.10. Usher Syndrome 6.10.1. Introduction to Unit 6.10.1.1. History of Usher Syndrome 6.10.2. Concept of Usher Syndrome 6.10.2.1. What is Usher Syndrome? 6.10.2.2. Genetics of Usher Syndrome 6.10.2.3. Typology Usher Syndrome 6.10.2.3.1. Type I 6.10.2.3.2. Type I 6.10.2.3.3. Type III 6.10.2.4. Prognosis of Usher Syndrome

6.10.3. Etiology 6.10.3.1. The Origin of Usher Syndrome 6.10.4. Prevalence 6.10.4.1. Usher Syndrome in Other Countries 6.10.5. Main Impacts 6.10.5.1. Introduction 6.10.5.2. Frequent Manifestations of Usher Syndrome 6.10.5.3. Rare Manifestations 6.10.6. Comorbidity of Usher Syndrome 6.10.6.1. What is Comorbidity? 6.10.6.2. Comorbidity in Usher Syndrome 6.10.6.3. Associated Disorders 6.10.7. Diagnosis and Evaluation of Usher Syndrome 6.10.7.1. The Diagnosis of Usher Syndrome 6 10 7 1 1 Where is It Performed? 6.10.7.1.2. Who Performs It? 6 10 7 1 3 When can it be Performed? 6.10.7.2. Speech Therapy Evaluation of Usher Syndrome 6.10.7.2.1. Medical History 6.10.7.2.2. Areas to Consider 6.10.8. Speech Therapy Based Intervention 6.10.8.1. Aspects to take into Account 6.10.8.2. Setting Objectives for the Intervention 6 10 8 3 Material for Rehabilitation 6.10.8.4. Resources to be Used 6.10.9. Guidelines 6.10.9.1. Guidelines to Consider for the Person with Usher Syndrome 6.10.9.2. Guidelines for the Family to Consider 6 10 9 3 Guidelines for the Educational Context 6.10.9.4. Resources and Associations 6.10.10. The Interdisciplinary Team 6.10.10.1. The Importance of the Interdisciplinary Team 6.10.10.2. Speech Therapy 6.10.10.3. Occupational Therapy 6.10.10.4. Physiotherapy

### tech 54 | Structure and Content

## **Module 7.** Dysphemia and/or Stuttering: Assessment, Diagnosis, and Intervention

| 7.1. Introduction to the Moduli | 7.1. | Introduc | ction to | the | Module |
|---------------------------------|------|----------|----------|-----|--------|
|---------------------------------|------|----------|----------|-----|--------|

7.1.2. Module Presentation

#### 7.2. Dysphemia or Stuttering

7.2.1. History of Stuttering

7.2.2. Stuttering

7.2.2.1. Concept of Stuttering

7.2.2.2. Symptomatology of Stuttering

7.2.2.2.1. Linguistic Manifestations

7.2.2.2. Behavioral Manifestations

7.2.2.3. Bodily Manifestations

7.2.2.2.3.1 Characteristics of Stuttering

#### 7.2.3. Classification

7.2.3.1. Tonic Stuttering

7.2.3.2. Clonic Stuttering

7.2.3.3. Mixed Stuttering

7.2.4. Other Specific Disorders of Fluency of Verbal Expression

#### 7.2.5. Development of the Disorder

7.2.5.1. Preliminary Considerations

7.2.5.2. Levels of Development and Severity

7.2.5.2.1. Initial Phase

7.2.5.2.2. Borderline Stuttering

7.2.5.2.3. Initial Stuttering

7.2.5.2.4. Intermediate Stuttering

7.2.5.2.5. Advanced Stuttering

#### 7.2.6. Comorbidity

7.2.6.1. Comorbidity in Dysphemia

7.2.6.2. Associated Disorders

#### 7.2.7. Prognosis of Recovery

7.2.7.1. Preliminary Considerations

7.2.7.2. Key Factors

7.2.7.3. Prognosis According to the Moment of Intervention

#### 7.2.8. The incidence and prevalence of Stuttering

7.2.8.1. Preliminary Considerations

#### 7.2.9. Etiology of Stuttering

7.2.9.1. Preliminary Considerations

7.2.9.2. Physiological Factors

7.2.9.3. Genetic Factors

7.2.9.4. Environmental Factors

7.2.9.5. Psychosocial Factors

7.2.9.6. Linguistic Factors

#### 7.2.10. Warning Signs

7.2.10.1. Preliminary Considerations

7.2.10.2. When to Evaluate?

7.2.10.3. Is it Possible to Prevent the Disorder?

#### 7.3. Evaluation of Dysphemia

7.3.1. Introduction to Unit

7.3.2. Dysphemia or normal Dysfluencies?

7.3.2.1. Initial Considerations

7.3.2.2. What Are Normal Disfluencies?

7.3.2.3. Differences Between Dysphemia and Normal Dysfluencies

7.3.2.4. When To Act?

7.3.3. Objective of the Evaluation

#### 7.3.4. Evaluation Method

7.3.4.1. Preliminary Considerations

7.3.4.2. Outline of the Evaluation Method

#### 7.3.5. Collection of Information

7.3.5.1. Interview with Parents

7.3.5.2. Gathering Relevant Information

7.3.5.3. Medical History

#### 7.3.6. Collecting Additional Information

7.3.6.1. Questionnaires for Parents

7.3.6.2. Ouestionnaires for Teachers

#### 7.3.7. Evaluation of the Child

7.3.7.1. Observation of the Child

7.3.7.2. Questionnaire for the Child

7.3.7.3. Parent-Child Interaction Profile

## Structure and Content | 55 tech

| 7.3.8.  | Diagnosis   |
|---------|---|
|         | 7.3.8.1. Clinical Judgment of the Information Collected           |
|         | 7.3.8.2. Prognosis  |
|         | 7.3.8.3. Types of Treatment                                       |
|         | 7.3.8.4. Treatment Objectives                                     |
| 7.3.9.  | Return  |
|         | 7.3.9.1. Return of Information to Parents                         |
|         | 7.3.9.2. Informing the Child of the Results                       |
|         | 7.3.9.3. Explain Treatment to the Child                           |
| 7.3.10. | Diagnostic Criteria   |
|         | 7.3.10.1. Preliminary Considerations                              |
|         | 7.3.10.2. Factors that May Affect the Fluency of Speech           |
|         | 7.3.10.2.1. Communication   |
|         | 7.3.10.2.2. Difficulties in Language Development                  |
|         | 7.3.10.2.3. Interpersonal Interactions                            |
|         | 7.3.10.2.4. Changes   |
|         | 7.3.10.2.5. Excessive Demands                                     |
|         | 7.3.10.2.6. Self-Esteem   |
|         | 7.3.10.2.7. Social Resources                                      |
| User-ce | ntered Speech Therapy Intervention in Dysphemia: Direct Treatment |
| 7.4.1.  | Introduction to Unit  |
| 7.4.2.  | Direct Treatment  |
|         | 7.4.2.1. Treatment Characteristics                                |
|         | 7.4.2.2. Therapist Skills   |
| 7.4.3.  | Therapy Goals   |
|         | 7.4.3.1. Goals with the Child                                     |
|         | 7.4.3.2. Objectives with the Parents                              |
|         | 7.4.3.3. Objectives with the Teacher                              |
| 7.4.4.  | Objectives with the Child: Speech Control                         |
|         | 7.4.4.1. Objectives   |
|         | 7.4.4.2. Techniques for Speech Control                            |
| 7.4.5.  | Objectives with the Child: Anxiety Control                        |
|         | 7.4.5.1. Objectives   |
|         | 7.4.5.2. Techniques for Anxiety Control                           |

7.4.

|      | 7.4.6.  | Objectives with the Unita: Thought Control                                      |
|------|---------|---|
|      |         | 7.4.6.1. Objectives   |
|      |         | 7.4.6.2. Techniques for Thoughts Control  |
|      | 7.4.7.  | Objectives with the Child: Emotion Control                                      |
|      |         | 7.4.7.1. Objectives   |
|      |         | 7.4.7.2. Techniques for Emotion Control   |
|      | 7.4.8.  | Objectives with the Child: Social and Communication Skills                      |
|      |         | 7.4.8.1. Objectives   |
|      |         | 7.4.8.2. Techniques for the Promotion of Social and Communication Skills        |
|      | 7.4.9.  | Generalization and Maintenance  |
|      |         | 7.4.9.1. Objectives   |
|      |         | 7.4.9.2. Generalization and Maintenance Techniques                              |
|      | 7.4.10. | Recommendations for User Discharge  |
| 7.5. |         | n Therapy Intervention in User-centered Dysphemia: Lidcombe Early ntion Program |
|      | 7.5.1.  | Introduction to Unit  |
|      | 7.5.2.  | Program Development   |
|      |         | 7.5.2.1. Who Developed It?  |
|      |         | 7.5.2.2. Where Was It Developed?  |
|      | 7.5.3.  | Is It Really Effective?   |
|      | 7.5.4.  | Fundamentals of the Lindcombe Program   |
|      |         | 7.5.4.1. Preliminary Considerations   |
|      |         | 7.5.4.2. Age of Application   |
|      | 7.5.5.  | Essential Components  |
|      |         | 7.5.5.1. Parental Verbal Contingencies  |
|      |         | 7.5.5.2. Stuttering Measures  |
|      |         | 7.5.5.3. Treatment in Structured and Unstructured Conversations                 |
|      |         | 7.5.5.4. Scheduled Maintenance  |
|      | 7.5.6.  | Assessment  |
|      |         | 7.5.6.1. Evaluation Based on Lindcombe Program                                  |
|      | 7.5.7.  | Stages of the Lindcombe Program   |
|      |         | 7.5.7.1. Stage 1  |
|      |         | 7.5.7.2. Stage 2  |

# tech 56 | Structure and Content

|      | /.5.8.  | Frequency of Sessions  |
|------|---------|--|
|      |         | 7.5.8.1. Weekly Visits to the Specialist                             |
|      | 7.5.9.  | Individualization in the Lindcombe Program                           |
|      | 7.5.10. | Final Conclusions  |
| 7.6. | Speech  | Therapy Intervention in the Child with Dysphemia: Proposed Exercises |
|      | 7.6.1.  | Introduction to Unit   |
|      | 7.6.2.  | Exercises for Speech Control   |
|      |         | 7.6.2.1. Self-made Resources   |
|      |         | 7.6.2.2. Resources Found on the Market                               |
|      |         | 7.6.2.3. Technological Resources                                     |
|      | 7.6.3.  | Exercises for Anxiety Control  |
|      |         | 7.6.3.1. Self-made Resources   |
|      |         | 7.6.3.2. Resources Found on the Market                               |
|      |         | 7.6.3.3. Technological Resources                                     |
|      | 7.6.4.  | Exercises for Thought Control  |
|      |         | 7.6.4.1. Self-made Resources   |
|      |         | 7.6.4.2. Resources Found on the Market                               |
|      |         | 7.6.4.3. Technological Resources                                     |
|      | 7.6.5.  | Exercises for Emotion Control  |
|      |         | 7.6.5.1. Self-made Resources   |
|      |         | 7.6.5.2. Resources Found on the Market                               |
|      |         | 7.6.5.3. Technological Resources                                     |
|      | 7.6.6.  | Exercises to improve of Social and Communication Skills              |
|      |         | 7.6.6.1. Self-made Resources   |
|      |         | 7.6.6.2. Resources Found on the Market                               |
|      |         | 7.6.6.3. Technological Resources                                     |
|      | 7.6.7.  | Exercises that Promote Generalization                                |
|      |         | 7.6.7.1. Self-made Resources   |
|      |         | 7.6.7.2. Resources Found on the Market                               |
|      |         | 7.6.7.3. Technological Resources                                     |
|      | 7.6.8.  | How To Use the Exercises Properly?                                   |
|      | 7.6.9.  | Implementation Time For Each Exercise                                |
|      | 7.6.10. | Final Conclusions  |



### Structure and Content | 57 tech

- 7.7. The Family as Agent of Intervention and Support for the Child With Dysphemia
  - 7.7.1. Introduction to Unit
  - 7.7.2. The Importance of the Family in the Development of the Dysphemic Child
  - 7.7.3. Communication Difficulties Encountered by the Dysphemic Child at Home.
  - 7.7.4. How do Communication Difficulties in the Family Environment Affect the Dysphemic Child?
  - 7.7.5. Types of Intervention with Parents
    - 7.7.5.1. Early Intervention. (Brief Review)
    - 7.7.5.2. Direct Treatment (Brief Review)
  - 7.7.6. Early Intervention with Parents
    - 7.7.6.1. Orientation Sessions
    - 7.7.6.2. Daily Practice
    - 7.7.6.3. Behavioral Records
    - 7.7.6.4. Behavior Modification
    - 7.7.6.5. Organization of the Environment
    - 7.7.6.6. Structure of Sessions
    - 7.7.6.7. Special Cases
  - 7.7.7. Direct Treatment with Parents.
    - 7.7.7.1. Modifying Attitudes and Behaviors
    - 7.7.7.2. Adapting Language to the Child's Difficulties
    - 7.7.7.3. Daily Practice at Home
  - 7.7.8. Advantages of Involving the Family in the Intervention 7.7.8.1. How Family Involvement Benefits the Child?
  - 7.7.9. The Family as a Means of Generalization
    - 7.7.9.1. The Importance of the Family in Generalization
  - 7.7.10. Final Conclusions
- 7.8. The School as Agent of Intervention and Support for the Child With Dysphemia
  - 7.8.1. Introduction to Unit
  - 7.8.2. The involvement of the School During the Intervention Period
    - 7.8.2.1. The Importance of the Involvement of the School
    - 7.8.2.2. The Influence of the School Center on the Development of the Dysphemic Child

- 7.8.3. Intervention According to the Student's Needs
  - 7.8.3.1. Importance of Taking into Account the Needs of the Student With Dysphemia
  - 7.8.3.2. How to Establish the Needs of the Student?
  - 7.8.3.3. Responsible for the Elaboration of the Student's Needs
- 7.8.4. Classroom Consequences of the Dysphemic Child
  - 7.8.4.1. Communication with Classmates
  - 7.8.4.2. Communication with Teachers
  - 7.8.4.3. Psychological Repercussions of the Child
- 7.8.5. School Supports
  - 7.8.5.1. Who Provides Them?
  - 7.8.5.2. How Are They Carried Out?
- 7.8.6. The coordination of the Speech Therapist with the School Professionals
  - 7.8.6.1. With Whom Does the Coordination Take Place?
  - 7.8.6.2. Guidelines to Be Followed to Achieve Such Coordination
- 7.8.7. Orientations
  - 7.8.7.1. Guidelines for the School to improve the Child's Intervention
  - 7.8.7.2. Guidelines for the School to improve the Child's Self-Esteem
  - 7.8.7.3. Guidelines for the School to improve the Child's Social Skills
- 7.8.8. The School as an Enabling Environment
- 7.8.9. Resources Available to the School
- 7.8.10. Final Conclusions
- 7.9. Associations and Foundations
  - 7.9.1. Introduction to Unit
  - 7.9.2. How Can Associations Help Families?
  - 7.9.3. The Fundamental Role of Stuttering Associations for Families
  - 7.9.4. The Help of Stuttering Associations and Foundations for Health Care and Educational Professionals
  - 7.9.5. Spanish Stuttering Associations and Foundations
    - 7.9.5.1. Spanish Stuttering Foundation (TTM)
      - 7.9.5.1.1. Foundation Information
      - 7.9.5.1.2. Contact Information

### tech 58 | Structure and Content

7.10.

| 7.9.6.  | Stuttering Associations and Foundations Around the World               |
|---------|--|
|         | 7.9.6.1. Argentine Association of Stuttering (AAT)                     |
|         | 7.9.6.1.1. Association Information                                     |
|         | 7.9.6.1.2. Contact Information   |
| 7.9.7.  | Websites for General Information on Stuttering                         |
|         | 7.9.7.1. Spanish Stuttering Foundation (TTM)                           |
|         | 7.9.7.1.1. Contact Information   |
|         | 7.9.7.2. American Stuttering Foundation                                |
|         | 7.9.7.2.1 Contact Information  |
|         | 7.9.7.3. Speech-Therapy Space  |
|         | 7.9.7.3.1. Contact Information   |
| 7.9.8.  | Stuttering Information Blogs   |
|         | 7.9.8.1. Subject Blog  |
|         | 7.9.8.1.1. Contact Information   |
|         | 7.9.8.2. Blog of the Spanish Foundation of Stuttering (TTM)            |
|         | 7.9.8.2.1. Contact Information   |
| 7.9.9.  | Speech Therapy Magazines Where Information Can be Obtained             |
|         | 7.9.9.1. Speech Therapy Space Magazine                                 |
|         | 7.9.9.1.1. Contact Information   |
|         | 7.9.9.2. Neurology Journal   |
|         | 7.9.9.2.1. Contact Information   |
| 7.9.10. | Final Conclusions  |
| Annexe  | S  |
| 7.10.1. | Guidelines for Dysphemia   |
| 7.10.2. | Example of Anamnesis for the Assessment of Dysphemias                  |
| 7.10.3. | Fluency Questionnaire for Parents                                      |
| 7.10.4. | Questionnaire for Parents of Emotional Responses to Stuttering 7.10.5. |
| 7.10.5. | Parent Record  |
| 7.10.6. | Fluency Questionnaire for Teachers                                     |
| 7.10.7. | Relaxation Techniques  |
|         | 7.10.7.1. Instructions for the Speech Therapist                        |
|         | 7.10.7.2. Relaxation Techniques Adapted to Children                    |
| 7.10.8. | Social Reality of People with Stuttering in Spain                      |
| 7.10.9. | Discriminations Suffered by People that Stutter                        |
| 7.10.10 | . Truths and Myths of Stuttering                                       |

#### Module 8. Dysarthria in Children and Adolescents

| 8.1. Init | ial Considerations |  |
|-----------|--------------------|--|
|-----------|--------------------|--|

8.1.1. Introduction to the Module

8.1.1.1. Module Presentation

- 8.1.2. Module Objectives
- 8.1.3. History of Dysarthrias
- 8.1.4. Prognosis of Dysarthrias in Children and Adolescents
  - 8.1.4.1. The Prognosis of Child Development in Children with Dysarthrias
    - 8.1.4.1.1. Language Development in Children with Dysarthria
    - 8.1.4.1.2. Speech Development in Children with Dysarthria
- 8.1.5. Early Care in Dysarthria
  - 8.1.5.1. What is Early Care?
  - 8.1.5.2. How Does Early Care Help Dysarthria?
  - 8.1.5.3. The Importance of Early Care in Dysarthria Intervention
- 8.1.6. Prevention of Dysarthria
  - 8.1.6.1. How an it be Prevented?
  - 8.1.6.2. Are There any Prevention Programs?
- 8.1.7. Neurology in Dysarthria
  - 8.1.7.1. Neurological Implications in Dysarthria
    - 8.1.7.1.1. Cranial Nerves and Speech Production
    - 8.1.7.1.2. Cranial Nerves Involved in Phonorespiratory Coordination
    - 8.1.7.1.3. Motor Integration of the Brain Related to Speech
- 8.1.8. Dysarthria vs. Apraxia
  - 8.1.8.1. Introduction to Unit
  - 8.1.8.2. Apraxia of Speech
    - 8.1.8.2.1. Concept of Verbal Apraxia
    - 8.1.8.2.2. Characteristics of Verbal Apraxia
  - 8.1.8.3. Difference between Dysarthria and Verbal Apraxia
    - 8.1.8.3.1. Classification Table
  - 8.1.8.4. Relationship Between Dysarthria and Verbal Apraxia
    - 8.1.8.4.1. Is there a Relationship Between Both Disorders?
    - 8.1.8.4.2. Similarities Between Both Disorders

## Structure and Content | 59 tech

| 8.1.9.  | Dysarthria and Dyslalia  |
|---------|--|
|         | 8.1.9.1. What Are Dyslalias? (Short Review)                              |
|         | 8.1.9.2. Difference Between Dysarthria and Dyslalias                     |
|         | 8.1.9.3. Similarities Between Both Disorders                             |
| 8.1.10. | Aphasia and Dysarthria   |
|         | 8.1.10.1. What is Aphasia? (In Brief)                                    |
|         | 8.1.10.2. Difference Between Dysarthria and Infantile Aphasia            |
|         | 8.1.10.3. Similarities Between Dysarthria and Infantile Aphasia          |
| General | Characteristics of Dysarthria  |
| 8.2.1.  | Conceptualization  |
|         | 8.2.1.1. Concept of Dysarthria   |
|         | 8.2.1.2. Symptomatology of Dysarthrias                                   |
| 8.2.2.  | General Characteristics of Dysarthrias                                   |
| 8.2.3.  | Classification of Dysarthrias According to the Site of the Lesion Caused |
|         | 8.2.3.1. Dysarthria due to Disorders of the Upper Motor Neuron           |
|         | 8.2.3.1.1. Speech Characteristics  |
|         | 8.2.3.1.2. Dysarthria due to Lower Motor Neuron Disorders                |
|         | 8.2.3.1.2.1. Speech Characteristics                                      |
|         | 8.2.3.1.3. Dysarthria due to Cerebellar Disorders                        |
|         | 8.2.3.1.3.1. Speech Characteristics                                      |
|         | 8.2.3.1.4. Dysarthria due to Extrapyramidal Disorders                    |
|         | 8.2.3.1.4.1. Speech Characteristics                                      |
|         | 8.2.3.1.5. Dysarthria due to Disorders of Multiple Motor Systems         |
|         | 8.2.3.1.5.1. Speech Characteristics                                      |
| 8.2.4.  | Classification According to Symptoms                                     |
|         | 8.2.4.1. Spastic Dysarthria  |
|         | 8.2.4.1.1. Speech Characteristics  |
|         | 8.2.4.2. Flaccid Dysarthria  |
|         | 8.2.4.2.1. Speech Characteristics  |
|         | 8.2.4.3. Ataxic Dysarthria   |
|         | 8.2.4.3.1. Speech Characteristics  |

8.2.

|         | 8.2.4.5. Mixed Dysarthria  |
|---------|--|
|         | 8.2.4.5.1. Speech Characteristics  |
|         | 8.2.4.6. Spastic Dysarthria  |
|         | 8.2.4.6.1. Speech Characteristics  |
| 8.2.5.  | Classification According to the Articulatory Intake                              |
|         | 8.2.5.1. Generalized Dysarthria  |
|         | 8.2.5.2. Dysarthric State  |
|         | 8.2.5.3. Dysarthric Remnants   |
| 8.2.6.  | Etiology of Dysarthria in Children and Adolescents                               |
|         | 8.2.6.1. Brain Lesion  |
|         | 8.2.6.2. Brain Tumor   |
|         | 8.2.6.3. Brain Tumor   |
|         | 8.2.6.4. Cerebral Accident   |
|         | 8.2.6.5. Other Causes  |
|         | 8.2.6.6. Drugs   |
| 8.2.7.  | Prevalence of Dysarthria in Children and Adolescents                             |
|         | 8.2.7.1. Current Prevalence of Dysarthria  |
|         | 8.2.7.2. Changes in Prevalence Over the Years                                    |
| 8.2.8.  | Language Characteristics in Dysarthria   |
|         | 8.2.8.1. Are there Language Difficulties in Children with Dysarthria?            |
|         | 8.2.8.2. Characteristics of the Alterations                                      |
| 8.2.9.  | Speech Characteristics in Dysarthria   |
|         | $8.2.9.1.\ Are\ There\ Language\ Abnormalities\ in\ Children\ with\ Dysarthria?$ |
|         | 8.2.9.2. Characteristics of the Alterations                                      |
| 8.2.10. | Semiology of Dysarthria  |
|         | 8.2.10.1. How to detect Dysarthria?  |
|         | 8.2.10.2. Relevant Signs and Symptoms of Dysarthria                              |
|         |  |

8.2.4.4. Dyskinetic Dysarthria

8.2.4.4.1. Speech Characteristics

## tech 60 | Structure and Content

| 8.3. | Classif   | ication of Dysarthria  |      | 8.3.9.  | Social Consequences in Dysarthric Children  |
|------|---|--|------|---------|---|
|      | 8.3.1 Other Disorders in Children with Dysarthria |  |      |         | 8.3.9.1. How Does Dysarthria Affect Social Relationships?                         |
|      |   | 8.3.1.1. Motor Disturbances  |      | 8.3.10. | Economic Consequences   |
|      |   | 8.3.1.2. Physiological Alterations   |      |         | 8.3.10.1. Professional Intervention and the Economic Cost to the Family           |
|      |   | 8.3.1.3. Communicative Disturbances  | 8.4. | Other o | lassifications of Dysarthrias in Children and Adolescents                         |
|      | 8.3.2.  | 8.3.1.4. Alterations in Social Relations Infantile Cerebral Palsy  |      | 8.4.1.  | Speech-Language Evaluation and its Importance in Children with Dysarthria         |
|      | 0.0.2.  | 8.3.2.1. Concept of Cerebral Palsy   |      |         | 8.4.1.1. Why should the Speech-Language Pathologist evaluate cases of Dysarthria? |
|      |   | 8.3.2.2. Dysarthria in Infantile Cerebral Palsy 8.3.2.2.1. Consequences of Dysarthria in Acquired Brain Injury                           |      |         | 8.4.1.2. Why evaluate cases of Dysarthria by the Speech-Language Pathologist?     |
|      |   | 8.3.2.3. Dysphagia   |      | 8.4.2.  | Clinical Speech Therapy Evaluation  |
|      |   | 8.3.2.3.1. Concept of Dysphagia  |      | 8.4.3.  | Evaluation and Diagnostic process   |
|      |   | 8.3.2.3.2. Dysarthria in relation to Dysphagia   |      | 0. 1.0. | 8.4.3.1. Medical History  |
|      |   | 8.3.2.3.3. Consequences of Dysarthria in Acquired Brain Injury   |      |         | 8.4.3.2. Document Analysis.   |
|      | 8.3.3.  | Acquired Brain Injury  |      |         | 8.4.3.3. Interviewing Family Members  |
|      |   | 8.3.3.1. Concept of Acquired Brain Injury  |      | 8.4.4.  | Direct Exploration  |
|      |   | 8.3.3.2. Dysarthria in Relation to Acquired Brain Injury   |      |         | 8.4.4.1. Neurophysiological Examination   |
|      |   | 8.3.3.2.1 Consequences of Dysarthria in Acquired Brain Injury  |      |         | 8.4.4.2. Exploration of the Trigeminal Nerve                                      |
|      | 8.3.4.  | Multiple Sclerosis   |      |         | 8.4.4.3. Exploration of the Accessory Nerve                                       |
|      |   | 8.3.4.1. Concept of Multiple Sclerosis   |      |         | 8.4.4.4. Examination of the Glossopharyngeal Nerve                                |
|      |   | 8.3.4.2. Dysarthria in Multiple Sclerosis  |      |         | 8.4.4.5. Examination of the Facial Nerve  |
|      |   | 8.3.3.2.1 Consequences of Dysarthria in Acquired Brain Injury  |      |         | 8.4.4.5.1. Exploration of the Hypoglossal Nerve                                   |
|      | 8.3.5.  | 1 3 3  |      |         | 8.4.4.5.2. Exploration of the Accessory Nerve                                     |
|      |   | 8.3.5.1. Concept of Acquired Brain Injury in Children  |      | 8.4.5.  | Perceptual Exploration  |
|      |   | 8.3.5.2. Dysarthria in Infantile Acquired Brain Injury   |      |         | 8.4.5.1. Breathing Exploration  |
|      | 0.0.6   | 8.3.5.2.1. Consequences of Dysarthria in Acquired Brain Injury   |      |         | 8.4.5.2. Resonance  |
|      | 8.3.6.  | Psychological Consequences in Dysarthric Children  |      |         | 8.4.5.3. Oral Motor Control   |
|      |   | 8.3.6.1. How Does Dysarthria Affect the Psychological Development of the Child?  |      |         | 8.4.5.4. Articulation   |
|      |   |  |      | 8.4.6.  | Other Aspects To Be Evaluated   |
|      | 027   | 8.3.6.2. Psychological Aspects Affected Social Consequences in Dysarthric Children   |      |         | 8.4.6.1. Intelligibility  |
|      |   |  |      |         | 8.4.6.2. Automatic Speech   |
|      | 8.3.8.  | 8.3.7.1. Does it Affect the Social Development of Dysarthric Children? Consequences on Communicative Interactions in Dysarthric Children |      |         | 8.4.6.3. Reading  |
|      | 0.3.0.  | 8.3.8.1. How Does Dysarthria Affect Communication?   |      |         | 8.4.6.4. Prosody  |
|      |   | 8.3.8.2. Communicative Aspects Affected  |      |         | 8.4.6.5. Intelligibility/severity Scan  |
|      |   | 0.0.6.2. Oominumbative Aspects Arrested  |      |         |   |

### Structure and Content | 61 tech

| 8.4.7.  | Assessment of the Dysarthric Child in the Family Context<br>8.4.7.1. Persons To Be Interviewed for the Evaluation of the Family Context<br>8.4.7.2. Relevant Aspects in the Interview |
|---------|---|
|         | 8.4.7.2.1 Some Important Questions to Ask in the Family Interview   |
|         | 8.4.7.3. Importance of the Evaluation in the Family Context   |
| 8.4.8.  | Evaluation of the Dysarthric Child in the School Context  |
|         | 8.4.8.1. Professionals to Interview in the School Context   |
|         | 8.4.8.1.1. The Tutor  |
|         | 8.4.8.1.2. The Hearing and Language Teacher   |
|         | 8.4.8.1.3. The School Counselor   |
|         | 8.4.8.2. The Importance of School Assessment in Children with Dysarthria.   |
| 8.4.9.  | Assessment of Dysarthric Children by Other Health Professionals   |
|         | 8.4.9.1. The Importance of Joint Assessment   |
|         | 8.4.9.2. Neurological Evaluation  |
|         | 8.4.9.3. Physiotherapeutic Evaluation   |
|         | 8.4.9.4. Otolaryngological Evaluation   |
|         | 8.4.9.5. Psychological Assessment.  |
| 8.4.10. | Differential Diagnosis  |
|         | 8.4.10.1. How to Make the Differential Diagnosis in Children with Dysarthria?   |
|         | 8.4.10.2. Considerations in Establishing the Differential Diagnosis   |
| Charact | eristics of Dysarthrias   |
| 8.5.1.  | The Importance of Intervention in Children Dysarthria   |
|         | 8.5.1.1. Consequences in Children Affected by Dysarthria  |
|         | 8.5.1.2. Evolution of Dysarthria through Intervention   |
| 8.5.2.  | Goals of Intervention for Children with Dysarthria  |
|         | 8.5.2.1. General Goals in Dysarthria  |
|         | 8.5.2.1.1. Psychological Goals  |
|         | 8.5.2.1.2. Motor Goals  |
| 8.5.3.  | Intervention Methods  |
| 8.5.4.  | Steps to be Carried Out During the Intervention   |
|         | 8.5.4.1. Agree on the Intervention Model  |
|         | 8.5.4.2. Establish the Sequencing and Timing of the Intervention  |
| 8.5.5.  | The Child as the Main Subject During the Intervention   |
|         | 8.5.5.1. Supporting the Child's Skills in Intervention  |

8.5.

| 8.5.6.   | General Intervention Considerations   |
|----------|---|
|          | 8.5.6.1. The importance of Motivational Involvement in Intervention                       |
|          | 8.5.6.2. Affectivity During the Intervention  |
| 8.5.7.   | Proposal of Activities for Speech Therapy Intervention                                    |
|          | 8.5.7.1. Psychological Activities   |
|          | 8.5.7.2. Motor Activities   |
| 8.5.8.   | The Importance of the Joint Rehabilitation Process  |
|          | 8.5.8.1. Professionals Involved in Dysarthrias  |
|          | 8.5.8.1.1. Physiotherapist  |
|          | 8.5.8.1.2. Psychologist   |
| 8.5.9.   | Alternative and Augmentative Communication Systems as Support for Intervention            |
|          | 8.5.9.1. How Can These Systems Help Intervention with Children With Dysarthria?           |
|          | 8.5.9.2. Choice of System Type: Augmentative or Alternative?                              |
|          | 8.5.9.3. Settings in Which its Use Will be Established                                    |
| 8.5.10.  | How to Establish the End of Treatment?  |
|          | 8.5.10.1. Criteria for Indicating the End of Rehabilitation                               |
|          | 8.5.10.2. Fulfillment of Rehabilitation Objectives  |
| Evaluati | ion of Dysarthrias  |
| 8.6.1 Sp | peech Therapy Intervention in Dysarthrias   |
|          | 8.6.1.1 Importance of Speech Therapy intervention in Childhood and Adolescent Dysarthrias |
|          | 8.6.1.2. What Does Speech Therapy Intervention in Dysarthria Consist of                   |
|          | 8.6.1.3. Objectives of the Speech Therapy Intervention                                    |
|          | 8.6.1.3.1. General Objectives of the Speech Therapy Intervention Program                  |
|          | 8.6.1.3.2. Specific Objectives of the Speech Therapy Intervention                         |

8.6.

Program

8.6.2. Swallowing Therapy in Dysarthria

8.6.2.3. Importance of the Therapy

8.6.2.1. Swallowing Difficulties in cases of Dysarthria 8.6.2.2. What does Swallowing Therapy Consist of?

## tech 62 | Structure and Content

| 8.6.3.  | Postural and Body Therapy in Dysarthria  | 8.7. | Speech | Therapy Exploration in Dysarthrias  |
|---------|--|------|--------|---|
|         | 8.6.3.1. Body Posture Difficulties in cases of Dysarthria  |      | 8.7.1. | Introduction  |
|         | 8.6.3.2. What does Postural and Body Therapy consist of? 8.6.3.3. The Importance of Therapy                          |      |        | 8.7.1.1. Importance of Developing a Speech Therapy Intervention Program for a Child with Dysarthria |
| 8.6.4.  |  |      | 8.7.2. | Initial Considerations for the Development of a Speech-language Intervention Program                |
|         | 8.6.4.2. What does Orofacial Therapy consist of?   |      |        | 8.7.2.1. Characteristics of Dysarthric Children   |
|         | 8.6.4.3. The Importance of Therapy   |      | 8.7.3. | Decisions for the Planning of Speech Therapy Intervention   |
| 8.6.5.  |  |      |        | 8.7.3.1. Method of Intervention to Be Performed   |
| 0.0.3.  | 8.6.5.1. Difficulties in Phonorespiratory Coordination in Cases of Dysarthria 8.6.5.2. What Does Therapy Consist Of? |      |        | 8.7.3.2. Consensus for the Sequencing of the Intervention Sessions: Aspects to Consider             |
|         |  |      |        | 8.7.3.2.1. Chronological Age  |
| 0.6.6   | 8.6.5.3. The Importance of Therapy   |      |        | 8.7.3.2.2. The Child's Extracurricular Activities   |
| 8.6.6.  | Articulation Therapy in Dysarthria   |      |        | 8.7.3.2.3. Schedules  |
|         | 8.6.6.1. Difficulties in Articulation in Cases of Dysarthria   |      |        | 8.7.3.3. Establishing Lines of Intervention   |
|         | 8.6.6.2. What Does Therapy Consist Of?   |      | 8.7.4. | Objectives of the Speech Therapy Intervention Program for Dysarthria                                |
| 0.67    | 8.6.6.3. The Importance of Therapy   |      |        | 8.7.4.1. General Objectives of the Speech Therapy Intervention Program                              |
| 8.6.7.  | Speech Therapy in Dysarthria   |      |        | 8.7.4.2. Specific Objectives of the Speech Therapy Intervention Program                             |
|         | 8.6.7.1. Phonatory Difficulties in Cases of Dysarthria   |      | 8.7.5. | Areas of Speech Therapy Intervention in Dysarthrias and Proposed Activities                         |
|         | 8.6.7.2. What Does Therapy Consist Of?   |      |        | 8.7.5.1. Orofacial  |
|         | 8.6.7.3. The Importance of Therapy   |      |        | 8.7.5.2. Voice  |
| 8.6.8.  | Resonance Therapy in Dysarthria  |      |        | 8.7.5.3. Prosody  |
|         | 8.6.8.1. Difficulties in Resonance in cases of Dysarthria  |      |        | 8.7.5.4. Speech   |
|         | 8.6.8.2. What Does Therapy Consist Of?   |      |        | 8.7.5.5. Language   |
|         | 8.6.8.3. The Importance of Therapy   |      |        | 8.7.5.6. Breathing  |
| 8.6.9.  | Vocal Therapy in Dysarthria  |      | 8.7.6. | Materials and Resources for Speech Therapy Intervention   |
|         | 8.6.9.1. Difficulties in Voice in Cases of Dysarthria  |      |        | 8.7.6.1. Proposal of Materials on the Market for Use in Speech Therapy                              |
|         | 8.6.9.2. What Does Therapy Consist Of?   |      |        | Intervention with an Outline of the Material and its Uses   |
|         | 8.6.9.3. The Importance of Therapy   |      |        | 8.7.6.2. Images of the Materials Previously Proposed  |
| 8.6.10. | Prosody and Fluency Therapy  |      | 8.7.7. | Technological Resources and Didactic Materials for Speech Therapy                                   |
|         | 8.6.10.1. Difficulties in Prosody and Fluency in Cases of Dysarthria   |      |        | Intervention  |
|         | 8.6.10.2. What Does Therapy Consist Of?  |      |        | 8.7.7.1. Software Programs for Intervention   |
|         | 8.6.10.3. The Importance of Therapy  |      |        | 8.7.7.1.1. PRAAT Program  |

### Structure and Content | 63 tech

| 8.7.8. Intervention Methods for I | Intervention in Dysarthria Intervention |
|-----------------------------------|---|
|-----------------------------------|---|

- 8.7.8.1. Types of Intervention Methods
  - 8.7.8.1.1. Medical Methods
  - 8.7.8.1.2. Clinical Intervention Methods
  - 8.7.8.1.3. Instrumental Methods
  - 8.7.8.1.4. Pragmatic Methods
  - 8.7.8.1.5. Behavioral-Logopedic Methods
- 8.7.8.2. Choice of the Appropriate Method of Intervention for the Case
- 8.7.9. Techniques of Speech Therapy Intervention and Proposed Activities
  - 8.7.9.1 Breathing
    - 8.7.9.1.1 Proposed Activities
  - 8.7.9.2. Phonation
    - 8.7.9.2.1. Proposed Activities
  - 8.7.9.3. Articulation
    - 8.7.9.3. Proposed Activities
  - 8.7.9.4. Resonance
    - 8.7.9.4.1. Proposed Activities
  - 8.7.9.5. Speech Rate
    - 8.7.9.5.1. Proposed Activities
  - 8.7.9.6. Accent and Intonation
    - 8.7.9.6.1. Proposed Activities
- 8.7.10. Alternative and/or Augmentative Communication Systems as a Method of Intervention in cases of Dysarthria
  - 8.7.10.1. What are AACS?
  - 8.7.10.2. How Can AACS Help in the Intervention with Children with Dysarthria?
  - 8.7.10.3. How can about AACS help Communication Children with Dysarthria?
  - 8.7.10.4. Choice of a System Method according to the Child's Needs
    - 8.7.10.4.1. Considerations for Establishing a Communication System
  - 8.7.10.5. How To Use Communication Systems in Different Child Development Settings?

- 8.8. Speech Therapy Interventions in Dysarthrias
  - 8.8.1. Introduction to the Unit in the Development of the Dysarthric Child
  - 8.8.2. The Consequences of the Dysarthric Child in the Family Context
    - 8.8.2.1. How is the Child Affected by Difficulties in the Home Environment?
  - 8.8.3. Communication Difficulties in the Dysarthric Child's Home Environment.
    - 8.8.3.1 What Barriers do they Encounter in the Home Environment?

      The Importance of Professional Intervention in the Family Environment
  - 8.8.4. The Importance of Professional Intervention in the Family Environment and the Family-centered Intervention Model
    - 8.8.4.1. The Importance of the Family in the Development of the Dysphemic Child.
    - 8.8.4.2. How to Carry Out Family-Centered Intervention in Cases of Dysarthric Children?
  - 8.8.5. Family Integration in Speech Therapy and School Intervention for Children with Dysarthria.
    - 8.8.5.1. Aspects to Consider in Order to Integrate the Family in the Intervention
  - 8.8.6. Benefits of Integrating the Family in the Professional and School Intervention
    - 8.8.6.1. Coordination with Health Professionals and the Benefits
    - 8.8.6.2. Coordination with Educational Professionals and the Benefits
  - 8.8.7. Advice for the Family Environment
    - 8.8.7.1. Tips to facilitate oral Communication in the Dysarthric Child
    - 8.8.7.2. Guidelines for the Relationship at Home with the Dysarthric Child
  - 8.8.8. Psychological Support for the Family
    - 8.8.8.1. Psychological Implications in the Family with Cases of Children with Dysarthria
    - 8.8.8.2. Why Provide Psychological Support?
  - 8.8.9. The Family as a Means of Generalization in Learning
    - 8.8.9.1. The Importance of the Family for the Generalization in Learning
    - 8.8.9.2. How Can the Family Support the Child's Learning?
  - 8.8.10. Communication with the Child with Dysarthria
    - 8.8.10.1. Communication Strategies in the Home Environment
    - 8.8.10.2. Tips for Better Communication
      - 8.8.10.2.1. Changes in the Environment
      - 8.8.10.2.2. Alternatives to Oral Communication

### tech 64 | Structure and Content

- 8.9. Proposal of Exercise for Speech Therapy Intervention in Dysarthria
  - 8.9.1. Introduction to Unit
    - 8.9.1.1. The Period of Childhood Schooling in Relation to the Prevalence of Child and Adolescent Dysarthria
  - 8.9.2. The Importance of the Involvement of the School During the Intervention Period
    - 8.9.2.1. The School as a Means of Development of the Dysarthric Child
    - 8.9.2.2. The Influence of the School on Child Development
  - 8.9.3. School Supports, Who Offers Support to the Child at School and How?
    - 8.9.3.1. The Hearing and Language Teacher
    - 8.9.3.2. The Guidance Counselor
  - 8.9.4. Coordination of the Rehabilitation Professionals with the Education Professionals
    - 8.9.4.1. Who to coordinate With?
    - 8.9.4.2. Steps for Coordination
  - 8.9.5. Consequences in the Dysarthric Child's Classroom
    - 8.9.5.1. Psychological Consequences in the Dysarthric Child
    - 8.9.5.2. Communication with Classmates
  - 8.9.6. Intervention According to the Student's Needs
    - 8.9.6.1. Importance of Taking into Account the Needs of the Student with Dysarthria.
    - 8.9.6.2. How to Establish the Needs of the Student?
    - 8.9.6.3. Participants in the Development of the Learner's Needs
  - 8.9.7 Guidance
    - 8.9.7.1. Guidance for the School for Intervention with the Child with Dysarthria
  - 8.9.8. Objectives of the Educational Center
    - 8.9.8.1. General Objectives of School Intervention
    - 8.9.8.2. Strategies to Achieve the Objectives
  - 8.9.9. Methods of Intervention in the Classroom Strategies to Promote the Child's Integration
  - 8.9.10. The Use of SAACs in the Classroom to Promote Communication
    - 8.9.10.1. How Can SAACs Help in the Classroom with the Dysarthric Student?



### Structure and Content | 65 tech

#### Module 9. Understanding Hearing Impairments

- 9.1. The Auditory System: Anatomical and Functional Bases
  - 9.1.1. Introduction to Unit
    - 9.1.1.1. Preliminary Considerations
    - 9.1.1.2. Concept of Sound
    - 9.1.1.3. Concept of Noise
    - 9.1.1.4. Concept of Sound Wave
  - 9.1.2. The External Ear
    - 9.1.2.1. Concept and Function of the External Ear
    - 9.1.2.2. Parts of the External Ear
  - 9.1.3. The Middle Ear
    - 9.1.3.1. Concept and Function of the Middle Ear
    - 9.1.3.2. Parts of the Middle Ear
  - 9.1.4. The Inner Ear
    - 9.1.4.1. Concept and Function of the Inner Ear
    - 9.1.4.2. Parts of the Inner Ear
  - 9.1.5. Hearing Physiology
  - 9.1.6. How does Natural Hearing work?
    - 9.1.6.1. Concept of Natural Hearing
    - 9.1.6.2. Mechanism of Undisturbed Hearing
- 9.2. Hearing Loss
  - 9.2.1. Hearing Loss
    - 9.2.1.1. Concept of Hearing Loss
    - 9.2.1.2. Symptoms of Hearing Loss
  - 9.2.2. The Auditory System: Anatomical and Functional Bases
    - 9.2.2.1. Transmission or Conduction Hearing Loss
    - 9.2.2.2. Perceptual or Sensorineural Hearing Losses
  - 9.2.3. Classification of Hearing Loss According to the Degree of Hearing Loss
    - 9.2.3.1. Light or Mild Hearing Loss
    - 9.2.3.2. Medium Hearing Loss
    - 9.2.3.3. Severe Hearing Loss
    - 9.2.3.4. Profound Hearing Loss

- 9.2.4. Classification of Hearing Loss According to Age of Onset
  - 9.2.4.1. Prelocution Hearing Loss
  - 9.2.4.2. Perlocution Hearing Loss
  - 9.2.4.3. Postlocution Hearing Loss
- 9.2.5. Classification of Hearing Loss According to its Etiology
  - 9.2.5.1. Accidental Hearing Loss
  - 9.2.5.2. Hearing Loss due to the Consumption of Ototoxic Substances
  - 9.2.5.3. Genetic Origin Hearing Loss
  - 9.2.5.4. Other Possible Causes
- 9.2.6. Risk Factors for Hearing Loss
  - 9.2.6.1. Aging
  - 9.2.6.2. Loud Noises
  - 9.2.6.3. Hereditary Factor
  - 9.2.6.4. Recreational Sports
  - 9.2.6.5. Others
- 9.2.7. Prevalence of Hearing Loss
  - 9.2.7.1. Preliminary Considerations
  - 9.2.7.2. Prevalence of Hearing Loss in the Rest of the Countries
- 9.2.8. Comorbidity of Hearing Loss
  - 9.2.8.1. Comorbidity in Hearing Loss
  - 9.2.8.2. Associated Disorders
- 9.2.9. Comparison of the Intensity of the Most Frequent Sounds
  - 9.2.9.1. Sound Levels of Frequent Noises
  - 9.2.9.2. Maximum Occupational Noise Exposure Allowed by Law
- 9.2.10. Hearing Prevention
  - 9.2.10.1. Preliminary Considerations
  - 9.2.10.2. The Importance of Prevention
  - 9.2.10.3. Preventive Methods for Hearing Care

## tech 66 | Structure and Content

| 9.3. | 9.3. Audiology and Audiometry |   | 9.5. | Cochlear implants |   |
|------|-------------------------------|---|------|-------------------|---|
| 9.4. | Hearing Aids                  |   |      | 9.5.1.            | Introduction to Unit  |
|      | 9.4.1.                        | Preliminary Considerations  |      | 9.5.2.            | History of Cochlear Implantation  |
|      | 9.4.2.                        | History of Hearing Aids   |      | 9.5.3.            | What are Cochlear Implants?   |
|      | 9.4.3.                        | What are Hearing Aids?  |      |                   | 9.5.3.1. Concept of Cochlear Implant  |
|      |                               | 9.4.3.1. Concept of Hearing Aid   |      |                   | 9.5.3.2. How does a Cochlear Implant work?  |
|      |                               | 9.4.3.2. How does a Hearing Aid work?                                     |      |                   | 9.5.3.3. Description of the Device  |
|      |                               | 9.4.3.3. Description of the Device  |      | 9.5.4.            | Requirements for Cochlear Implant Placement   |
|      | 9.4.4.                        | Hearing Aid Fitting and Fitting Requirements                              |      |                   | 9.5.4.1. Preliminary Considerations   |
|      |                               | 9.4.4.1. Preliminary Considerations                                       |      |                   | 9.5.4.2. Physical Requirements to Be Met by the User  |
|      |                               | 9.4.4.2. Hearing Aid Fitting Requirements                                 |      |                   | 9.5.4.3. Psychological Requirements to Be Met by the User                                       |
|      |                               | 9.4.4.3. How is a Hearing Aid Fitted?                                     |      | 9.5.5.            | Implementation of Cochlear Implant  |
|      | 9.4.5.                        | When is it Not Advisable to Fit a Hearing Aid?                            |      |                   | 9.5.5.1. The Surgery  |
|      |                               | 9.4.5.1. Preliminary Considerations                                       |      |                   | 9.5.5.2. Implant Programming  |
|      |                               | 9.4.5.2. Aspects that Influence the Professional's Final Decision         |      |                   | 9.5.5.3. Professionals Involved in the Surgery and in the Implant                               |
|      | 9.4.6.<br>9.4.7.              | The Success and Failure of Hearing Aid fitting                            |      |                   | Programming   |
|      |                               | 9.4.6.1. Factors Influencing the Success of Hearing Aid fitting           |      | 9.5.6.            | When is it not Advisable to Place a Cochlear Implant?   |
|      |                               | 9.4.6.2. Factors Influencing the Failure of Hearing Aid fitting           |      |                   | 9.5.6.1. Preliminary Considerations   |
|      |                               | Analysis of the Evidence on Effectiveness, Safety, and Ethical Aspects of |      |                   | 9.5.6.2. Aspects that Influence the Professional's Final Decision                               |
|      |                               | the Hearing Aid   |      | 9.5.7.            | Success and Failure of Cochlear Implantation  |
|      |                               | 9.4.7.1. Hearing Aid Effectiveness  |      |                   | 9.5.7.1. Factors Influencing the Success of Cochlear Implant placement                          |
|      |                               | 9.4.7.2. Hearing Aid Safety   |      |                   | 9.5.7.2. Factors Influencing Cochlear Implant Placement Failure                                 |
|      |                               | 9.4.7.3. Ethical Aspects of the Hearing Aid                               |      | 9.5.8.            | Analysis of the Evidence on Effectiveness, Safety, and Ethical Aspects of Cochlear Implantation |
|      | 9.4.8.                        | Indications and Contraindications of Hearing Aids                         |      |                   | ·   |
|      |                               | 9.4.8.1. Preliminary Considerations                                       |      |                   | 9.5.8.1. Effectiveness of Cochlear Implantation   |
|      |                               | 9.4.8.2. Hearing Aid Indications  |      |                   | 9.5.8.2. Safety of Cochlear Implantation  |
|      |                               | 9.4.8.3. Hearing Aid Contraindications                                    |      | 0.50              | 9.5.8.3. Ethical Aspects of Cochlear Implantation   |
|      | 9.4.9.                        | Current Hearing Aid Models  |      | 9.5.9.            | Indications and Contraindications of Cochlear Implantation                                      |
|      |                               | 9.4.9.1. Introduction   |      |                   | 9.5.9.1. Preliminary Considerations   |
|      |                               | 9.4.9.2. The Different Current Hearing Aid Models                         |      |                   | 9.5.9.2. Indications of Cochlear Implantation   |
|      | 9.4.10.                       | Final Conclusions   |      | 0.540             | 9.5.9.3. Contraindications of Cochlear Implantation   |
|      |                               |   |      | 9.5.10.           | Final Conclusions   |

## Structure and Content | 67 tech

| 9.6. | Speech Therapy Evaluation instruments in Hearing Impairments |  |
|------|--|--|
|      | 9.6.1.   | Introduction to Unit   |
|      | 9.6.2.   | Elements to Take into Account During the Evaluation                          |
|      |  | 9.6.2.1. Level of Care   |
|      |  | 9.6.2.2. Imitation   |
|      |  | 9.6.2.3. Visual Perception   |
|      |  | 9.6.2.4. Mode of Communication   |
|      |  | 9.6.2.5. Hearing   |
|      |  | 9.6.2.5.1. Reaction to Unexpected Sounds                                     |
|      |  | 9.6.2.5.2. Sound Detection What Sounds Do You Hear?                          |
|      |  | 9.6.2.5.3. Identification and Recognition of Environmental and Speech Sounds |
|      | 9.6.3.   | Audiometry and the Audiogram   |
|      |  | 9.6.3.1. Preliminary Considerations  |
|      |  | 9.6.3.2. Concept of Audiometry   |
|      |  | 9.6.3.3. Concept of Audiogram  |
|      |  | 9.6.3.4. The function of Audiometry and the Audiogram                        |
|      | 9.6.4.   | First Part of the Evaluation: Anamnesis                                      |
|      |  | 9.6.4.1. General Development of the Patient                                  |
|      |  | 9.6.4.2. Type and Degree of Hearing Loss                                     |
|      |  | 9.6.4.3. Timing of Onset of Hearing Loss                                     |
|      |  | 9.6.4.4. Existence of Associated Pathologies                                 |
|      |  | 9.6.4.5. Mode of Communication   |
|      |  | 9.6.4.6. Use or Absence of Hearing Aids                                      |
|      |  | 9.6.4.6.1. Date of Fitting   |
|      |  | 9.6.4.6.2. Other Aspects   |
|      | 9.6.5.   | Second Part of the Evaluation: Otorhinolaryngologist and Prosthetist         |
|      |  | 9.6.5.1. Preliminary Considerations  |
|      |  | 9.6.5.2. Otolaryngologist's Report   |
|      |  | 9.6.5.2.1. Analysis of the Objective Tests                                   |
|      |  | 9.6.5.2.2. Analysis of the Subjective Tests                                  |

9.6.5.3. Prosthetist's Report

| 9.6.6. | Second part of the Evaluation: Standardized Tests                        |
|--------|--|
|        | 9.6.6.1. Preliminary Considerations                                      |
|        | 9.6.6.2. Speech Audiometry   |
|        | 9.6.6.2.1. Ling Test   |
|        | 9.6.6.2.2. Name Test   |
|        | 9.6.6.2.3. Early Speech Perception Test (ESP)                            |
|        | 9.6.6.2.4. Distinguishing Features Test                                  |
|        | 9.6.6.2.5. Vowel Identification Test                                     |
|        | 9.6.6.2.6. Consonant Identification Test                                 |
|        | 9.6.6.2.7. Monosyllable Recognition Test                                 |
|        | 9.6.6.2.8. Bi-syllable Recognition Test                                  |
|        | 9.6.6.2.9. Phrase Recognition Test                                       |
|        | 9.6.6.2.9.1. Open-choice Sentence Test with Support                      |
|        | 9.6.6.2.9.2. Test of Open-choice Sentences without Support               |
|        | 9.6.6.3. Oral Language Test/Tests  |
|        | 9.6.6.3.1. PLON-R  |
|        | 9.6.6.3.2. Reynell Scale of Language Development                         |
|        | 9.6.6.3.3. ITPA  |
|        | 9.6.6.3.4. ELCE  |
|        | 9.6.6.3.5. Monfort Induced Phonological Register                         |
|        | 9.6.6.3.6. MacArthur   |
|        | 9.6.6.3.7. Boehm's Test of Basic Concepts                                |
|        | 9.6.6.3.8. BLOC  |
| 9.6.7. | Elements to Be Included in a Speech Therapy Report on Hearing Impairment |
|        | 9.6.7.1. Preliminary Considerations                                      |
|        | 9.6.7.2. Important and Basic Elements                                    |

9.6.7.3. Importance of the Speech Therapy Report in Auditory

Rehabilitation

## tech 68 | Structure and Content

9.7.

| 9.6.8.  | Evaluation of the Hearing-Impaired Child in the School Context                            |
|---------|---|
|         | 9.6.8.1. Professionals to Be Interviewed  |
|         | 9.6.8.1.1. Tutor  |
|         | 9.6.8.1.2. Professors   |
|         | 9.6.8.1.3. Hearing and Speech Teacher   |
|         | 9.6.8.1.4. Others   |
| 9.6.9.  | Early Detection   |
|         | 9.6.9.1. Preliminary Considerations   |
|         | 9.6.9.2. The importance of Early Diagnosis  |
|         | 9.6.9.3. Why is a Speech Therapy Evaluation More Effective When the Child is Younger?     |
| 9.6.10. | Final Conclusions   |
| Speech- | language Pathologist's role in Hearing Impairment Intervention                            |
| 9.7.1.  | Introduction to Unit  |
|         | 9.7.1.1. Methodological Approaches, According to Perier's Classification (1987)           |
|         | 9.7.1.2. Oral Monolingual Methods   |
|         | 9.7.1.3. Bilingual Methods  |
|         | 9.7.1.4. Mixed Methods  |
| 9.7.2.  | Are there Any Differences Between Rehabilitation after a Hearing Aid or Cochlear Implant? |
| 9.7.3.  | Post-Implant Intervention in Prelingually Hearing-Impaired Children                       |
| 9.7.4.  | Post-Implant Intervention in Postlocution Children  |
|         | 9.7.4.1. Introduction to Unit   |
|         | 9.7.4.2. Phases of Auditory Rehabilitation  |
|         | 9.7.4.2.1. Sound Detection Phase  |
|         | 9.7.4.2.2. Discrimination Phase   |
|         | 9.7.4.2.3. Identification Phase   |
|         | 9.7.4.2.4. Recognition Phase  |
|         | 9.7.4.2.5. Comprehension Phase  |
| 9.7.5.  | Useful Activities for Rehabilitation  |
|         | 9.7.5.1. Activities for the Detection Phase   |
|         | 9.7.5.2. Activities for the Discrimination Phase  |
|         | 9.7.5.3. Activities for the Identification Phase  |
|         | 9.7.5.4. Activities for the Recognition Phase   |
|         | 9.7.5.5. Activities for the Comprehension Phase   |

| 9.7.6.  | Role of the family in the Rehabilitation Process                                |
|---------|---|
|         | 9.7.6.1. Guidelines for Families  |
|         | 9.7.6.2. Is the Presence of the Parents in the Sessions Advisable?              |
| 9.7.7.  | The Importance of an Interdisciplinary Team During the Intervention             |
|         | 9.7.7.1. Preliminary Considerations   |
|         | 9.7.7.2. Why the Interdisciplinary Team is so Important                         |
|         | 9.7.7.3. The Professionals Involved in Rehabilitation                           |
| 9.7.8.  | Strategies for the School Environment   |
|         | 9.7.8.1. Preliminary Considerations   |
|         | 9.7.8.2. Communication Strategies   |
|         | 9.7.8.3. Methodological Strategies  |
|         | 9.7.8.4. Strategies for Text Adaptation   |
| 9.7.9.  | Materials and Resources Adapted to the Speech Therapy Intervention in Audiology |
|         | 9.7.9.1. Self-Made Useful Materials   |
|         | 9.7.9.2. Commercially Available Material  |
|         | 9.7.9.3. Useful Technological Resources   |
| 9.7.10. | Final Conclusions   |
| Bimodal | Communication   |
| 9.8.1.  | Introduction to Unit  |
| 9.8.2.  | What does Bimodal Communication Consist Of?                                     |
|         | 9.8.2.1. Concept  |
|         | 9.8.2.2. Functions  |
| 9.8.3.  | Elements of Bimodal Communication   |
|         | 9.8.3.1. Preliminary Considerations   |
|         | 9.8.3.2. Elements of Bimodal Communication                                      |
|         | 9.8.3.2.1. Pantomimic Gestures  |
|         | 9.8.3.2.2. Elements of Sign Language  |
|         | 9.8.3.2.3. Natural Gestures   |
|         | 9.8.3.2.4. "Idiosyncratic" Gestures   |
|         | 9.8.3.2.5. Other Elements   |
|         |   |

9.8.



### Structure and Content | 69 tech

|  | 9.8.4. Ob | jectives | and Advantages | s of the use | e of Bimoda | l Communication |
|--|-----------|----------|----------------|--------------|-------------|-----------------|
|--|-----------|----------|----------------|--------------|-------------|-----------------|

- 9.8.4.1. Preliminary Considerations
- 9.8.4.2. Advantages of Bimodal Communication
  - 9.8.4.2.1. Regarding the Word at the Reception
  - 9.8.4.2.2. Regarding the Word in Expression
- 9.8.4.3. Advantages of Bimodal Communication Over Other Augmentative and Alternative Communication Systems
- 9.8.5. When Should We Consider Using Bimodal Communication?
  - 9.8.5.1. Preliminary Considerations
  - 9.8.5.2. Factors to Consider
  - 9.8.5.3. Professionals Making the Decision
  - 9.8.5.4. The Importance of the Role of the Family
- 9.8.6. The Facilitating Effect of Bimodal Communication
  - 9.8.6.1. Preliminary Considerations
  - 9.8.6.2. The Indirect Effect
  - 9.8.6.3. The Direct Effect
- 9.8.7. Bimodal Communication in the different Language Areas
  - 9.8.7.1. Preliminary Considerations
  - 9.8.7.2. Bimodal Communication and Comprehension
  - 9.8.7.3. Bimodal Communication and Expression
- 9.8.8. Forms of Implementation of Bimodal Communication
- 9.8.9. Programs aimed at learning and implementing the Bimodal System
  - 9.8.9.1. Preliminary Considerations
  - 9.8.9.2. Introduction to Bimodal Communication Supported by Clic and NeoBook Authoring Tools
  - 9.8.9.3. Bimodal 2000
- 9.8.10. Final Conclusions
- 9.9. The Figure of the Interpreter of Sign Language (ILSE)
  - 9.9.1. Introduction to Unit
  - 9.9.2. History of Interpretation
    - 9.9.2.1. History of Oral Language Interpreting
    - 9.9.2.2. History of Sign Language Interpreting
    - 9.9.2.3. Sign Language Interpreting as a Profession

### tech 70 | Structure and Content

9.9.3. The Interpreter of Sign Language (ILSE)

|        | 9.9.3.1. Concept   |
|--------|--|
|        | 9.9.3.2. ILSE Professional Profile                                 |
|        | 9.9.3.2.1. Personal Characteristics                                |
|        | 9.9.3.2.2. Intellectual Characteristics                            |
|        | 9.9.3.2.3. Ethical Characteristics                                 |
|        | 9.9.3.2.4. General Knowledge                                       |
|        | 9.9.3.3. The Indispensable Role of the Sign Language Interpreter   |
|        | 9.9.3.4. Professionalism in Interpreting                           |
| 9.9.4. | Interpreting Methods   |
|        | 9.9.4.1. Characteristics of Interpreting                           |
|        | 9.9.4.2. The purpose of Interpretation                             |
|        | 9.9.4.3. Interpreting as a Communicative and Cultural Interaction  |
|        | 9.9.4.4. Types of Interpretation                                   |
|        | 9.9.4.4.1. Consecutive Interpretation                              |
|        | 9.9.4.4.2. Simultaneous Interpretation                             |
|        | 9.9.4.4.3. Interpreting in a Telephone Call                        |
|        | 9.9.4.4.4. Interpreting Written Texts                              |
| 9.9.5. | Components of the Interpretation Process                           |
|        | 9.9.5.1. Message   |
|        | 9.9.5.2. Perception  |
|        | 9.9.5.3. Linking Systems   |
|        | 9.9.5.4. Comprehension   |
|        | 9.9.5.5. Interpretation  |
|        | 9.9.5.6. Assessment  |
|        | 9.9.5.7. Human Resources Involved                                  |
| 9.9.6. | List of the Elements of the Interpretation Mechanism               |
|        | 9.9.6.1. Moser's Hypothetical Model of Simultaneous Interpretation |
|        | 9.9.6.2. Colonomo's Model of Interpreting Work                     |
|        | 9.9.6.3. Cokely's Interpretation Process Model                     |
|        |  |
|        |  |

| le 10.  | Psychological Knowledge of Interest in the Speech-Lar             |
|---------|---|
|         | 9.9.10.2. ILS Associations in the Rest of the World               |
|         | 9.9.10.1. ILS Associations in Europe                              |
| 9.9.10. | Sign Language Interpreter Associations                            |
|         | 9.9.9.3. Other Ethical Principles                                 |
|         | 9.9.9.2. Fundamental Principles                                   |
|         | 9.9.9.1. The ILSE Code of Ethics                                  |
| 9.9.9.  | Ethical Standards   |
|         | 9.9.8.3. Organization of ILS services in other European Countries |
|         | 9.9.8.2. Specific Services  |
|         | 9.9.8.1. Services in General                                      |
| 9.9.8.  | ILSE Fields of Action   |
|         | 9.9.7.5. Resources for Lexical Building                           |
|         | 9.9.7.4. Verbal Fluency and Mental Agility                        |
|         | 9.9.7.3. Note Taking  |
|         | 9.9.7.2. Memory   |
|         | 9.9.7.1. Concentration and Attention                              |
|         | 4   |

# **Module 10.** Psychological Knowledge of Interest in the Speech-Language Pathology Field

10.1. Child and Adolescent Psychology

9.9.7. Interpretation Techniques

- 10.1.1. First Approach to Child and Adolescent Psychology
  - 10.1.1.1. What Does the Area of Knowledge of Child and Adolescent Psychology Study?
  - 10.1.1.2. How has it Evolved Over the Years?
  - 10.1.1.3. What Are the Different Theoretical Orientations that a Psychologist Can Follow?
  - 10.1.1.4. The Cognitive-Behavioral Model
- 10.1.2. Psychological Symptoms and Mental Disorders in Childhood and Adolescence
  - 10.1.2.1. Difference Between Sign, Symptom, and Syndrome
  - 10.1.2.2. Definition of Mental Disorder
  - 10.1.2.3. Classification of Mental Disorders: DSM 5 and ICD-10
  - 10.1.2.4. Difference Between Psychological Problem or Difficulty and Mental Disorder
  - 10.1.2.5. Comorbidity
  - 10.1.2.6. Frequent Problems Object of Psychological Attention

- 10.1.3. Skills of the Professional Working with Children and Adolescents
  - 10.1.3.1. Essential Knowledge
  - 10.1.3.2. Main Ethical and Legal Issues in Working With Children and Adolescents
  - 10.1.3.3. Personal Characteristics and Skills of the Professional
  - 10.1.3.4. Communication Skills
  - 10.1.3.5. The Game in Consultation
- 10.1.4. Main Procedures in Psychological Assessment and Intervention in Childhood and Adolescence
  - 10.1.4.1. Decision Making and Help Seeking in Children and Adolescents
  - 10.1.4.2. Interview
  - 10.1.4.3. Establishment of Hypotheses and Assessment Tools
  - 10.1.4.4. Functional Analysis and Explanatory Hypotheses of the Difficulties
  - 10.1.4.5. Establishment of Objectives
  - 10.1.4.6. Psychological Intervention
  - 10.1.4.7. Monitoring
  - 10.1.4.8. The Psychological Report: Key Aspects
- 10.1.5. Benefits of Working with Other Persons Related to the Child
  - 10.1.5.1. Fathers and Mothers
  - 10.1.5.2. Education Professionals
  - 10.1.5.3. Speech Therapist
  - 10.1.5.4. The Psychologist
  - 10.1.5.5. Other Professionals
- 10.1.6. The Interest of Psychology from the point of view of a Speech-Language Pathologist
  - 10.1.6.1. The Importance of Prevention
  - 10.1.6.2. The influence of Psychological Symptoms on Speech Therapy Rehabilitation
  - 10.1.6.3. The Relevance of Knowing How to Detect Possible Psychological Symptoms
  - 10.1.6.4. Referral to the Appropriate Professional

- 10.2. Internalizing Problems: Anxiety
  - 10.2.1. Concept of Anxiety
  - 10.2.2. Detection: Main Manifestations
    - 10.2.2.1. Emotional Dimension
    - 10.2.2.2. Cognitive Dimension
    - 10.2.2.3. Psychophysiological Dimension
    - 10.2.2.4. Behavioral Dimension
  - 10.2.3. Anxiety Risk Factors
    - 10.2.3.1. Individual
    - 10.2.3.2. Contextual
  - 10.2.4. Conceptual Differences
    - 10.2.4.1. Anxiety and Stress
    - 10.2.4.2. Anxiety and Fear
    - 10.2.4.3. Anxiety and Phobia
  - 10.2.5. Fears in Childhood and Adolescence
    - 10.2.5.1. Difference Between Developmental Fears and Pathological Fears
    - 10.2.5.2. Developmental Fears in Infants
    - 10.2.5.3. Developmental Fears in the Preschool Stage
    - 10.2.5.4. Developmental Fears in the School Stage
    - 10.2.5.5. The Main Fears and Worries in the Adolescent Stage
  - 10.2.6. Some of the Main Anxiety Disorders and Problems in Children and Adolescents
    - 10.2.6.1. School Rejection
      - 10.2.6.1.1. Concept
      - 10.2.6.1.2. Delimitation of Concepts: Anxiety, Rejection, and School Phobia
      - 10.2.6.1.3. Main Symptoms
      - 10.2.6.1.4. Prevalence
      - 10.2.6.1.5. Etiology
    - 10.2.6.2. Pathological Fear of the Dark
      - 10.2.6.2.1. Concept
      - 10.2.6.2.2. Main Symptoms
      - 10.2.6.2.3. Prevalence
      - 10.2.6.2.4. Etiology

### tech 72 | Structure and Content

10.2.6.3. Separation Anxiety

10.2.6.3.1. Concept

10.2.6.3.2. Main Symptoms

10.2.6.3.3. Prevalence

10.2.6.3.4. Etiology

10.2.6.4. Specific Phobia

10.2.6.4.1. Concept

10.2.6.4.2. Main Symptoms

10.2.6.4.3. Prevalence

10.2.6.4.4. Etiology

10.2.6.5. Social Phobia

10.2.6.5.1. Concept

10.2.6.5.2. Main Symptoms

10.2.6.5.3. Prevalence

10.2.6.5.4. Etiology

10.2.6.6. Panic Disorder

10.2.6.6.1. Concept

10.2.6.6.2. Main Symptoms

10.2.6.6.3. Prevalence

10.2.6.6.4. Etiology

10.2.6.7. Agoraphobia

10.2.6.7.1. Concept

10.2.6.7.2. Main Symptoms

10.2.6.7.3. Prevalence

10.2.6.7.4. Etiology

10.2.6.8. Generalized Anxiety Disorder

10.2.6.8.1. Concept

10.2.6.8.2. Main Symptoms

10.2.6.8.3. Prevalence

10.2.6.8.4. Etiology

10.2.6.9. Obsessive Compulsive Disorder

10.2.6.9.1. Concept

10.2.6.9.2. Main Symptoms

10.2.6.9.3. Prevalence

10.2.6.9.4. Etiology









# Structure and Content | 73 tech

10.2.6.10. Post-Traumatic Stress Disorders

10.2.6.10.1. Concept

10.2.6.10.2. Main Symptoms

10.2.6.10.3. Prevalence

10.2.6.10.4. Etiology

10.2.7. Possible Interference of Anxious Symptomatology in Speech Therapy Rehabilitation

10.2.7.1. In Articulation Rehabilitation

10.2.7.2. In Literacy Rehabilitation

10.2.7.3. In Voice Rehabilitation

10.2.7.4. In Dysphemia Rehabilitation

10.3. Internalizing Type Problems: Depression

10.3.1. Concept

10.3.2. Detection: Main Manifestations

10.3.2.1. Emotional Dimension

10.3.2.2. Cognitive Dimension

10.3.2.3. Psychophysiological Dimension

10.3.2.4. Behavioral Dimension

10.3.3. Depression Risk Factors

10.3.3.1. Individual

10.3.3.2. Contextual

10.3.4. Evolution of Depressive Symptomatology Throughout Development

10.3.4.1. Symptoms in Children

10.3.4.2. Symptoms in Adolescents

10.3.4.3. Symptoms in Adults

10.3.5. Some of the Major Disorders and Problems of Childhood and Adolescent Depression

10.3.5.1. Major Depressive Disorder

10.3.5.1.1. Concept

10.3.5.1.2. Main Symptoms

10.3.5.1.3. Prevalence

10.3.5.1.4. Etiology

# tech 74 | Structure and Content

10.3.5.2. Persistent Depressive Disorder 10.4.3. Some of the Main Dhild and Adolescent Conduct Disorders 10.3.5.2.1. Concept 10.4.3.1. Oppositional Defiant Disorder 10.3.5.2.2. Main Symptoms 10.4.3.1.1. Concept 10.3.5.2.3. Prevalence 10.4.3.1.2. Main Symptoms 10.3.5.2.4. Etiology 10.4.3.1.3. Facilitating Factors 10.3.5.3. Disruptive Mood Dysregulation Disorder 10 4 3 1 4 Prevalence 10.3.5.3.1. Concept 10.4.3.1.5. Etiology 10.4.3.2. Conduct Disorder 10.3.5.3.2. Main Symptoms 10.3.5.3.3. Prevalence 10.4.3.2.1. Concept 10.3.5.3.4. Etiology 10.4.3.2.2. Main Symptoms 10.3.6. Interference of Depressive Symptomatology in Speech Therapy 10.4.3.2.3. Facilitating Factors Rehabilitation 10.4.3.2.4. Prevalence 10.3.6.1. In Articulation Rehabilitation 10.4.3.2.5. Etiology 10.3.6.2. In Literacy Rehabilitation 10.4.4. Hyperactivity and Impulsivity 10.3.6.3. In Voice Rehabilitation 10.4.4.1. Hyperactivity and its Manifestations 10.3.6.4. In Dysphemia Rehabilitation 10.4.4.2. Relationship Between Hyperactivity and Disruptive Behavior 10.4. Externalizing Type Problems: the Main Disruptive Behaviors and their Characteristics 10.4.4.3. Evolution of Hyperactive and Impulsive Behaviors Throughout 10.4.1. Factors that Contribute to the Development of Behavioral Problems Development 10.4.1.1. In Childhood 10.4.4.4. Problems Associated with Hyperactivity/Impulsivity 10.4.1.2. In Adolescence 10.4.5. Jealousy 10.4.2. Disobedient and Aggressive Behavior 10.4.5.1. Concept 10.4.5.2. Main Manifestations 10.4.2.1. Disobedience 10.4.5.3. Possible Causes 10.4.2.1.1. Concept 10.4.6 Behavioral Problems at Mealtime or Bedtime 10.4.2.1.2. Manifestations 10.4.6.1. Common Bedtime Problems 10.4.2.2. Aggressiveness 10.4.2.2.1. Concept 10.4.6.2. Usual Problems at Mealtimes 10.4.2.2.2. Manifestations 10.4.7. Interference of Behavioral problems in Speech Therapy Rehabilitation 10.4.2.2.3. Types of Aggressive Behaviors 10.4.7.1. In Articulation Rehabilitation 10.4.7.2. In Literacy Rehabilitation 10.4.7.3. In Voice Rehabilitation

10.4.7.4. In Dysphemia Rehabilitation

| 10.5. | Attentio            | on  |
|-------|---------------------|---|
|       | 10.5.1.             | Concept   |
|       | 10.5.2.             | Brain Areas Involved in Attentional Processes and Main Characteristics. |
|       | 10.5.3.             | Classification of Attention   |
|       | 10.5.4.             | Influence of Attention on Language                                      |
|       | 10.5.5.             | Influence of Attention Deficit on Speech Rehabilitation                 |
|       |                     | 10.5.5.1. In Articulation Rehabilitation                                |
|       |                     | 10.5.5.2. In Literacy Rehabilitation                                    |
|       |                     | 10.5.5.3. In Voice Rehabilitation                                       |
|       |                     | 10.5.5.4. In Dysphemia Rehabilitation                                   |
|       | 10.5.6.             | Specific Strategies to Promote Different Types of Care                  |
|       |                     | 10.5.6.1. Tasks that Favor Sustained Attention                          |
|       |                     | 10.5.6.2. Tasks that Favor Selective Attention                          |
|       |                     | 10.5.6.3. Tasks that Favor Divided Attention                            |
|       | 10.5.7.             | The Importance of Coordinated Intervention with Other Professionals     |
| 10.6. | Executive Functions |   |
|       | 10.6.1.             | Concept   |
|       | 10.6.2.             | Brain areas Involved in Executive Functions and Main Characteristics    |
|       | 10.6.3.             | Components of Executive Functions                                       |
|       |                     | 10.6.3.1. Verbal Fluency  |
|       |                     | 10.6.3.2. Cognitive Flexibility   |
|       |                     | 10.6.3.3. Planning and Organization                                     |
|       |                     | 10.6.3.4. Inhibition  |
|       |                     | 10.6.3.5. Decision Making   |
|       |                     | 10.6.3.6. Reasoning and Abstract Thinking                               |
|       | 10.6.4.             | Influence of the Executive Functions on Language                        |
|       | 10.6.5.             | Specific Strategies for training Executive Functions                    |
|       |                     | 10.6.5.1. Strategies that Favor Verbal Fluency                          |
|       |                     | 10.6.5.2. Strategies that Favor Cognitive Flexibility                   |
|       |                     | 10.6.5.3. Strategies that Promote Planning and Organization             |
|       |                     | 10.6.5.4. Strategies that Favor Inhibition                              |
|       |                     | 10.6.5.5. Strategies that Favor Decision Making                         |
|       |                     | 10.6.5.6. Strategies that Favor Reasoning and Abstract Thinking         |
|       | 10.6.6.             | The Importance of Coordinated Intervention with Other Professionals     |

# 10.7. Social Skills I: Related Concepts 10.7.1. Social Skills 10.7.1.1. Concept 10.7.1.2. The Importance of Social Skills 10.7.1.3. The Different Components of Social Skills 10.7.1.4. The Dimensions of Social Skills 10.7.2. Communication.

# 10.7.2.1. Communication Difficulties

10.7.2.2. Effective Communication

10.7.2.3. Components of Communication

10.7.2.3.1. Characteristics of Verbal Communication.

10.7.2.3.2. Characteristics of Non-Verbal Communication and its Components

# 10.7.3. Communicative Styles 10.7.3.1. Inhibited Style

10.7.3.2. Aggressive Style

10.7.3.3. Assertive Style

10.7.3.4. Benefits of an Assertive Communication Style

# 10.7.4. Parental Educational Styles

10.7.4.1. Concept

10.7.4.2. Permissive-Indulgent Educational Style

10.7.4.3. Negligent Permissive Style

10.7.4.4. Authoritative Educational Style

10.7.4.5. Democratic Educational Style

10.7.4.6. Consequence of the Different Educational Styles in Children and Adolescents

## 10.7.5. Emotional Intelligence

10.7.5.1. Intrapersonal and Interpersonal Emotional Intelligence

10.7.5.2. Basic Emotions

10.7.5.3. The Importance of Recognizing Emotions in Oneself and Others

10.7.5.4. Emotional Regulation

10.7.5.5. Strategies to Favor an Adequate Emotional Regulation

# tech 76 | Structure and Content

10.8.

| 10.7.6 | . Self-Esteem  |
|--------|--|
|        | 10.7.6.1. Concept of Self-Esteem   |
|        | 10.7.6.2. Difference Between Self-Concept and Self-Esteem                          |
|        | 10.7.6.3. Characteristics of Self-Esteem Deficit                                   |
|        | 10.7.6.4. Factors Associated with Self-Esteem Deficit                              |
|        | 10.7.6.5. Strategies to Promote Self-esteem  |
| 10.7.7 | . Empathy  |
|        | 10.7.7.1. Concept of Empathy   |
|        | 10.7.7.2. Is Empathy the Same as Sympathy?   |
|        | 10.7.7.3. Types of Empathy   |
|        | 10.7.7.4. Theory of Mind   |
|        | 10.7.7.5. Strategies to Promote Empathy  |
|        | 10.7.7.6. Strategies to Work on Theory of Mind                                     |
| Social | Skills II: Specific Guidelines for Handling Different Situations                   |
| 10.8.1 | . Communicative Intention  |
|        | 10.8.1.1. Factors to Take into Account when Starting a Conversation                |
|        | 10.8.1.2. Specific Guidelines for Initiating a Conversation                        |
| 10.8.2 | . Entering an Initiated Conversation   |
|        | 10.8.2.1. Specific Guidelines for Entering an Initiated Conversation               |
| 10.8.3 | . Maintaining the Dialogue   |
|        | 10.8.3.1. Active Listening   |
|        | 10.8.3.2. Specific Guidelines for Maintaining Conversations                        |
| 10.8.4 | . Conversational Closure   |
|        | 10.8.4.1. Difficulties Encountered in Closing Conversations                        |
|        | 10.8.4.2. Assertive Style in Conversational Closure                                |
|        | 10.8.4.3. Specific Guidelines for Closing Conversations in Different Circumstances |
|        |  |

| 10.8.5.  | Making Requests  |
|----------|--|
|          | 10.8.5.1. Non-Assertive Ways of Making Requests  |
|          | 10.8.5.2. Specific Guidelines for Making Requests in an Assertive Manne  |
| 10.8.6.  | Rejection of Requests  |
|          | 10.8.6.1. Non-Assertive Ways of Rejecting Requests   |
|          | 10.8.6.2. Specific Guidelines for Rejecting Requests in an Assertive Manner                                      |
| 10.8.7.  | Giving and Receiving Compliments   |
|          | 10.8.7.1. Specific Guidelines for Giving Compliments   |
|          | 10.8.7.2. Specific Guidelines for Accepting Compliments in an Assertive Manner                                   |
| 10.8.8.  | Responding to Criticism  |
|          | 10.8.8.1. Non-Assertive Ways of Responding to Criticism  |
|          | 10.8.8.2. Specific Guidelines for Reacting Assertively to Criticism  |
| 10.8.9.  | Asking for Behavioral Changes  |
|          | 10.8.9.1. Reasons for Requesting Behavioral Changes  |
|          | 10.8.9.2. Specific Strategies for Requesting Behavioral Changes  |
| 10.8.10. | Interpersonal Conflict Management  |
|          | 10.8.10.1 Types of Conflicts   |
|          | 10.8.10.2. Non-Assertive Ways of Dealing With Conflicts  |
|          | 10.8.10.3. Specific Strategies for Dealing Assertively with Conflicts  |
| _        | es for Behavior Modification in Consultation and for Increasing the ion of the Youngest Children in Consultation |

10.9.1. What are Behavior Modification Techniques?10.9.2. Techniques Based on Operant Conditioning

10.9.3.1. Positive Reinforcement 10.9.3.2. Token Economy

Appropriate Behaviors

10.9.3. Techniques for the Initiation, Development, and Generalization of

10.9.

# Structure and Content | 77 tech

10.9.4. Techniques for the Reduction or Elimination of Inappropriate Behaviors

10.9.4.1. Extinction

10.9.4.2. Reinforcement of Incompatible Behaviors

10.9.4.3. Response Cost and Withdrawal of Privileges

10.9.5. Punishment

10.9.5.1. Concept

10.9.5.2. Main Disadvantages

10.9.5.3. Guidelines for the Application of Punishment

10.9.6. Motivation

10.9.6.1. Concept and Main Characteristics

10.9.6.2. Types of Motivation

10.9.6.3. Main Explanatory Theories

10.9.6.4. The Influence of Beliefs and Other Variables on Motivation

10.9.6.5. Main Manifestations of Low Motivation

10.9.6.6. Guidelines to Promote Motivation in Consultation

10.10. School Failure: Study Habits and Techniques from a Speech Therapy and

Psychological Point of View

10.10.1. Concept of School Failure

10.10.2. Causes of School Failure

10.10.3. Consequences of School Failure in Children

10.10.4. Influencing Factors in School Success

10.10.5. The Aspects that We Must Take Care of to Obtain a Good Performance

10.10.5.1. Sleep

10.10.5.2. Nutrition

10.10.5.3. Physical Activity

10.10.6. The Role of Parents

10.10.7. Some Guidelines and Study Techniques that Can Help Children and Adolescents

10.10.7.1. The Study Environment

10.10.7.2. The Organization and Planning of the Study

10.10.7.3. Calculation of Time

10.10.7.4. Underlining Techniques

10.10.7.5. Schemes

10.10.7.6. Mnemonic rules

10.10.7.7. Review

10.10.7.8. Breaks



This Master's Degree in Speech,
Language and Communication
Disorders will help you grow personally
and professionally"



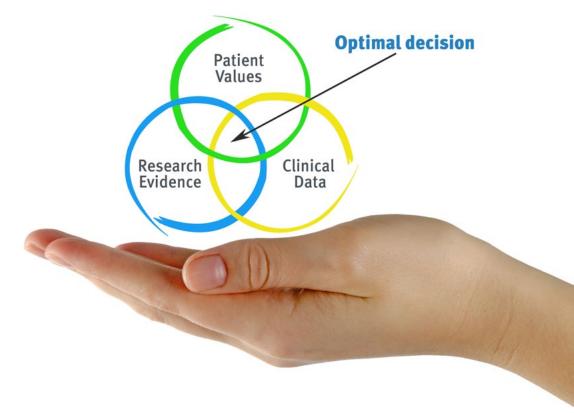


# tech 80 | Methodology

## At TECH Education School we use the Case Method

In a given situation, what should a professional do? Throughout the program, students will be presented with multiple simulated cases based on real situations, where they will have to investigate, establish hypotheses and, finally, resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method.

With TECH, educators can experience a learning methodology that is shaking the foundations of traditional universities around the world.



It is a technique that develops critical skills and prepares educators to make decisions, defend their arguments, and contrast opinions.



Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method.

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

- Educators who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
- 2. The learning process is solidly focused on practical skills that allow educators to better integrate the knowledge into daily practice.
- **3.** Ideas and concepts are understood more efficiently, given that the example situations are based on real-life teaching.
- **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.



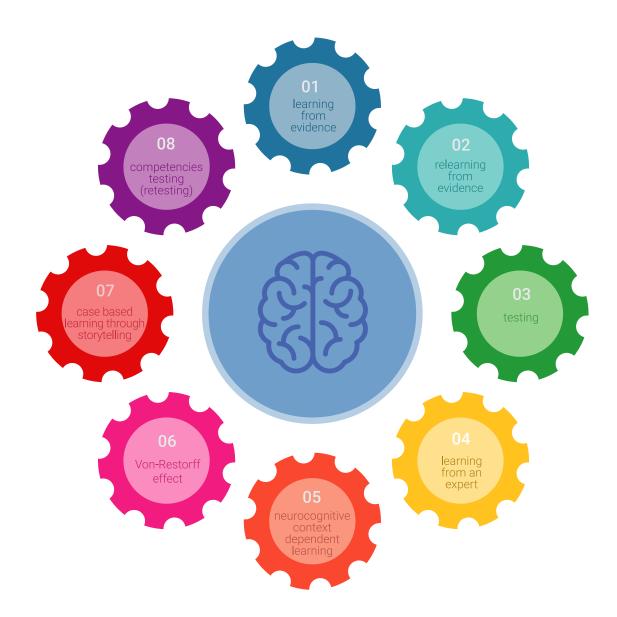
# tech 82 | Methodology

# Relearning Methodology

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

Educators will learn through real cases and by solving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.



# Methodology | 83 tech

At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology we have trained more than 85,000 educators with unprecedented success in all specialties. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

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.

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by our learning system is 8.01, according to the highest international standards.

# tech 84 | Methodology

This program offers the best educational material, prepared with professionals in mind:



## **Study Material**

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

These contents are then adapted in audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high-quality pieces in each and every one of the materials that are made available to the student.



## **Educational Techniques and Procedures on Video**

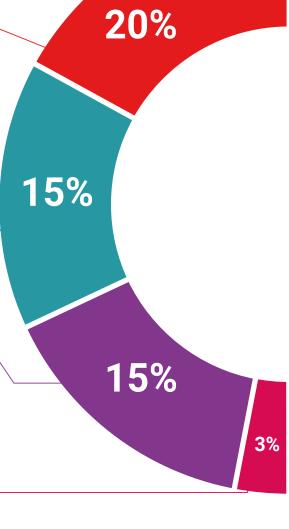
TECH introduces students to the latest techniques, with the latest educational advances, and to the forefront of Education. All this, first-hand, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, students can watch them as many times as they want.



### **Interactive Summaries**

The TECH team presents 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 and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.

20% 17% 7% 3%

## **Expert-Led Case Studies and Case Analysis**

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



# **Testing & Retesting**

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



## **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 in 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.







# tech 88 | Certificate

This program will allow you to obtain your **Master's Degree in Speech, Language and Communication 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** title 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.

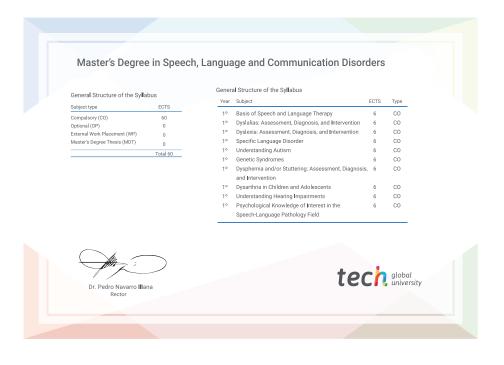
Title: Master's Degree in Speech, Language and Communication Disorders

Modality: online

Duration: 12 months

Accreditation: 60 ECTS





<sup>\*</sup>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.

tech global university Master's Degree Speech, Language and

Communication Disorders

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

