



# Psychology and Language

Development

» Modality: online

» Duration: 6 months

» Certificate: TECH Global University

» Accreditation: 18 ECTS

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/pt/medicine/postgraduate-diploma/postgraduate-diploma-psychology-language-development

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## tech 06 | Introduction to the Program

Language development is a crucial process during childhood. In fact, recent research has revealed that the brain structure of children predisposed to language disorders, such as dyslexia, shows significant differences, affecting key areas involved in speech production and comprehension.

This is how this program was born—designed to train professionals to evaluate the stages of language development in childhood and adolescence, enabling them to detect possible disorders early and facilitate a more accurate diagnosis. In addition, it will encourage critical reflection on current research in the field, applying evidence-based solutions to optimize the treatment of language disorders in clinical settings.

Likewise, it will delve into the neuropsychological mechanisms underlying language processing and comprehension. In this sense, the development and acquisition of language will be examined from its earliest stages to maturity, analyzing the most recent theories and approaches in the neuroscience of language.

Finally, it will address disorders related to reading, writing, and learning, equipping professionals with the tools to recognize and diagnose language and communication disorders, including issues with speech, voice, and non-verbal oral functions. It will also focus on the ability to intervene effectively in various contexts, whether in the family, school, or clinical environment, as well as on the creation of personalized speech therapy interventions.

In this way, TECH has developed a comprehensive 100% online program, with high-quality academic materials and resources accessible from any electronic device with an internet connection. This will eliminate issues such as the need to travel to a physical location or adhere to fixed schedules. Additionally, it will use the revolutionary Relearning methodology, which is based on the continuous repetition of key concepts to ensure an effective and natural understanding of the content.

This **Postgraduate Diploma in Psychology and Language Development** contains the most complete and up-to-date scientific program on the market. Its most notable features are:

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



You will acquire essential knowledge about how language disorders can manifest themselves, facilitating the early identification and proper diagnosis of various conditions. What are you waiting for to enroll?"

## Introduction to the Program | 07 tech



You will be qualified to design, program and assess speech therapy treatments using the appropriate techniques and resources, with the aim of improving the quality of life of your patients and supporting their integration into society"

The teaching staff includes professionals belonging to the fields of Medicine and Speech Therapy, who contribute their work experience to this program, as well as renowned specialists from reference societies and prestigious universities.

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

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

You will acquire skills to recognize and diagnose disorders related to literacy and learning, as well as problems with speech, voice and non-verbal oral functions.

You will delve into the neuropsychological mechanisms underlying language processing, analyzing its development from the earliest stages to maturity.







## tech 10 | Why Study at TECH?

#### The world's best online university, according to FORBES

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

#### The best top international faculty

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

#### The world's largest online university

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



The most complete syllabus





World's
No.1
The World's largest
online university

#### The most complete syllabuses on the university scene

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

#### A unique learning method

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

#### The official online university of the NBA

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

#### **Leaders in employability**

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









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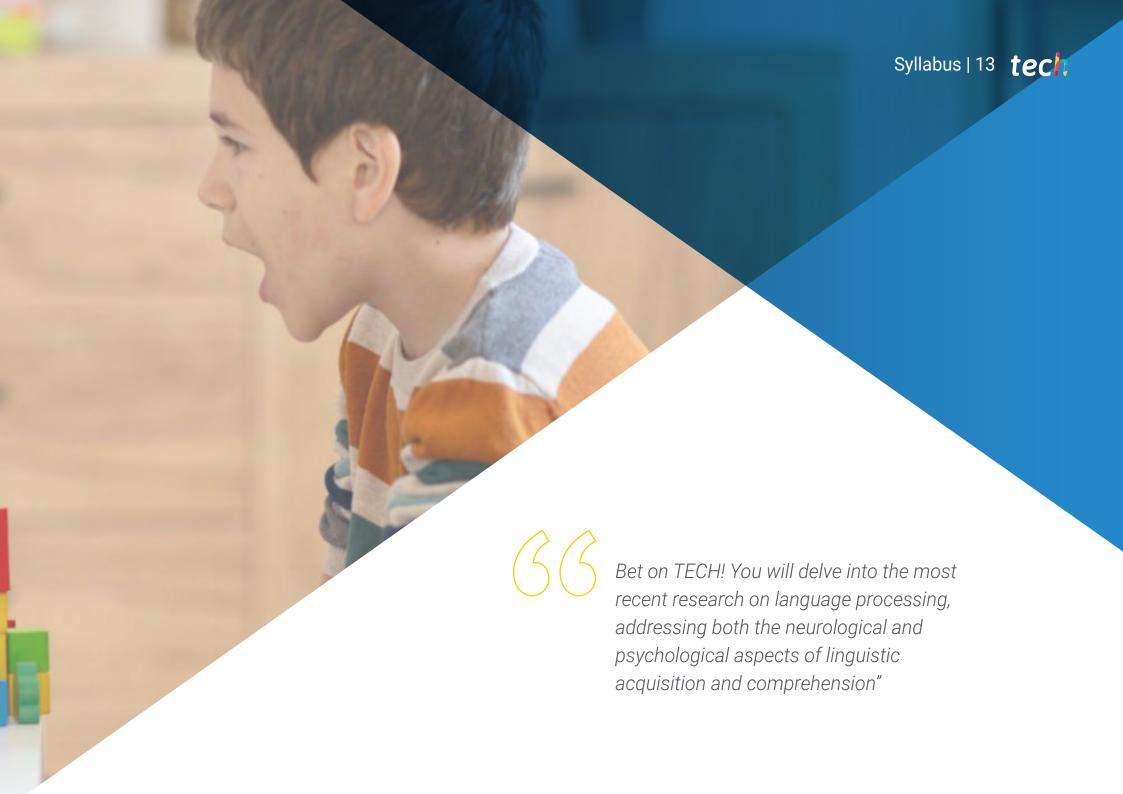
#### **Google Premier Partner**

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

#### The top-rated university by its students

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



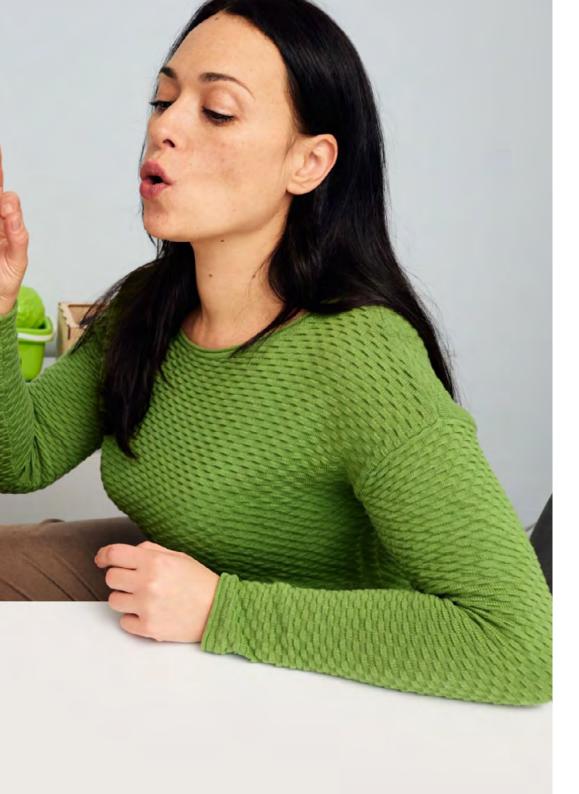


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## Module 1. Developmental Psychology

- 1.1. Introduction to the Fundamental Theories and Approaches
  - 1.1.1. Main Theories of Human Development (Psychoanalytic, Cognitive, Behavioral, Humanistic)
    - 1.1.1.1. Freud's Psychoanalytic Theory: Psychosexual Stages and their Impact on Development
    - 1.1.1.2. Piaget's Cognitive Theory: Stages of Cognitive Development
    - 1.1.1.3. Bandura's Social Learning Theory: Modeling and Observational Learning
  - 1.1.2. Evolutionary Approaches: Continuities and Discontinuities in Development
    - 1.1.2.1. Theory of Continuity of Development: Gradual Changes Throughout Life
    - 1.1.2.2. Theory of Discontinuity of Development: Abrupt Changes in Different Stages
    - 1.1.2.3. Factors Influencing Continuities and Discontinuities of Development
  - 1.1.3. Piaget's Cognitive Theory
    - 1.1.3.1. Stages of Cognitive Development: Sensorimotor, Preoperational, Concrete Operational and Formal Operational
    - 1.1.3.2. Fundamental Cognitive Processes: The Notions of Assimilation and Accommodation
    - 1.1.3.3. Key Experiments Showing the Different Stages
  - 1.1.4. Erikson's Psychosocial Theory: An Overview of the Eight Stages of Development
    - 1.1.4.1. Trust vs. Distrust: The Initial Development of a Sense of Security
    - 1.1.4.2. Autonomy vs. Shame and Doubt: The Construction of Independence
    - ${\it 1.1.4.3.}\ {\it Identity}\ {\it vs.}\ {\it Role}\ {\it Confusion:}\ {\it The}\ {\it Crisis}\ {\it of}\ {\it Adolescence}$
- 1.2. Prenatal Development and Conception
  - 1.2.1. Stages of Prenatal Development: Germinal, Embryonic and Fetal
    - 1.2.1.1. Germinal Stage: Cell Division and Implantation in the Uterus
    - 1.2.1.2. Embryonic Stage: Formation of the Main Organs
    - 1.2.1.3. Fetal Stage: The Growth and Maturation of Systems
  - 1.2.2. Genetic Factors and Their Influence on Development
    - 1.2.2.1. Genetics and Inheritance: Chromosomes and the Transmission of Traits
    - 1.2.2.2. Genetic Mutations: Their Impact on Prenatal Development
    - 1.2.2.3. Common Genetic Diseases and their Influence on Fetal Development





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- 1.2.3. Effects of Teratogenic and Environmental Agents in Pregnancy
  - 1.2.3.1. Effects of Alcohol and Drugs during Pregnancy
  - 1.2.3.2. The Impact of Maternal Stress on Prenatal Development
  - 1.2.3.3. Nutrition and the Effects of Nutritional Deficiencies
- 1.2.4. Childbirth, the Postpartum Period and the Neonatal Stage
  - 1.2.4.1. Types of Childbirth: Natural, Caesarean and Assisted
  - 1.2.4.2. The Baby's Adaptation to the Extrauterine Environment: The First Days
  - 1.2.4.3. The Importance of Skin-to-Skin Contact After Birth
- 1.3. Early Childhood Development (0 to 3 years)
  - 1.3.1. Motor Development: Milestones and Progression
    - 1.3.1.1. Gross Motor Development: Head and Neck Control
    - 1.3.1.2. Fine Motor Development: Object Manipulation
    - 1.3.1.3. Gait and Postural Control: Walking and its Impact on Development
  - 1.3.2. Cognitive Development According to Piaget (Sensorimotor Stage)
    - 1.3.2.1. Initial Reflections and Behavioural Patterns
    - 1.3.2.2. Object Permanence: The Understanding that Objects Continue to Exist
    - 1.3.2.3. Development of Symbolic Thought and Mental Representation
  - 1.3.3. Attachment and Emotional Bonds with Caregivers
    - 1.3.3.1. Types of Attachment: Secure, Insecure-Avoidant and Insecure-Ambivalent
    - 1.3.3.2. The Role of the Mother Figure in Emotional Development
    - 1.3.3.3. Influence of Attachment on Future Social Relationships
  - 1.3.4. Erikson's First Two Stages
    - 1.3.4.1. Basic Trust versus Mistrust (0-18 Months)
    - 1.3.4.2. Autonomy versus Shame and Doubt (18 Months to 3 Years)
    - 1.3.4.3. The Influence of the Environment on the Development of Trust and Autonomy
- 1.4. Development of Middle Childhood (3 to 5 years)
  - 1.4.1. Advances in Fine and Gross Motor Skills
    - 1.4.1.1. Development of Balance and Coordination in Play
    - 1.4.1.2. Fine Motor Skills: Use of Utensils and Handwriting Control
    - 1.4.1.3. Participation in Sports and Physical Activities

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1.4.2. Development of Pre-Operational Thought According to Piaget 1.4.2.1. Symbolic Thought and Egocentrism 1.4.2.2. Intuitive Thought: the Difficulty in Understanding Conservation 1.4.2.3. The Role of Language in the Development of Thought 1.4.3. Play and its Importance in Social and Emotional Development 1.4.3.1. Symbolic Play and its Relationship with Creativity 1.4.3.2. Cooperative Play and Interaction with Other Children 1.4.3.3. Play and Emotional Expression in Middle Childhood 1.4.4. Erikson's Stage: Initiative versus Guilt 1.4.4.1. The Importance of Decision Making in Autonomous Development 1.4.4.2. The Influence of Failure and Punishment on Guilt 1.4.4.3. The Role of Caregivers in Promoting Initiative 1.5. Late Childhood Development (6 to 12 years) 1.5.1. Physical Development: Growth and Motor Skills 1.5.1.1. Increase in Physical Strength and Motor Dexterity 1.5.1.2. Coordination of Movements and Precision in Physical Activities 1.5.1.3. Changes in Body Composition: From Prepubescent to Growing Children 1.5.2. Concrete Operational Thinking and Cognitive Development 1.5.2.1. Understanding Conservation: Number, Mass, Volume 1.5.2.2. Ability to Classify and Group Objects 1.5.2.3. Logical Thinking and Problem Solving 1.5.3. Social Relationships: Friendships and Acceptance in the Group 1.5.3.1. The Concept of Friendship in Late Childhood 1.5.3.2. The Influence of the Group on Social Development 1.5.3.3. Social Competence and Acceptance in the Peer Group 1.5.4. Erikson's Stage: Industry Versus Inferiority 1.5.4.1. The Sense of Competence and the Acquisition of Skills 1.5.4.2. The Influence of Failure on the Perception of Inferiority 1.5.4.3. The Role of Educators and Family Members in the Promotion of Industriousness

#### 1.6. Puberty and Adolescence

- 1.6.1. Physical Changes: Pubertal Development and Sexuality
  - 1.6.1.1. Hormonal Changes and Their Physical Effects
  - 1.6.1.2. Development of Secondary Sexual Characteristics
  - 1.6.1.3. Sexuality and Romantic Relationships During Adolescence
- 1.6.2. Cognitive Development: Formal Operational Thought According to Piaget
  - 1.6.2.1. Abstract Thought and the Capacity to Hypothesize
  - 1.6.2.2. Decision Making and Long-Term Planning
  - 1.6.2.3. Development of Moral Reasoning and Ethical Reflection
- 1.6.3. Identity and the Formation of Self-Concept
  - 1.6.3.1. The Search for Identity: Family and Social Influences
  - 1.6.3.2. The Impact of the Media on the Construction of Self-Concept
  - 1.6.3.3. Identity Crisis and the Questioning of Social Roles
- 1.6.4. Erikson's Stage: Identity Versus Role Confusion
  - 1.6.4.1. Exploration of Different Social and Personal Roles
  - 1.6.4.2. The Influence of the Environment on Identity Formation
  - 1.6.4.3. Overcoming Role Confusion Through Experience
- 1.7. Development in Young Adulthood
  - 1.7.1. Physical Development: Peak Performance and the First Signs of Aging
    - 1.7.1.1. The Peak of Strength and Physical Endurance
    - 1.7.1.2. Adaptation to the First Signs of Aging (Wrinkles, Loss of Elasticity)
    - 1.7.1.3. The Role of Physical Activity in Preventing Premature Aging
  - 1.7.2. Cognitive Development in Young Adulthood
    - 1.7.2.1. Fluid Intelligence: Solving New and Adaptive Problems
    - 1.7.2.2. Crystallized Intelligence: Accumulated Knowledge and Experience
    - 1.7.2.3. The Impact of Stress and Motivation on Cognitive Performance
  - 1.7.3. Sexuality and Family Formation
    - 1.7.3.1. The Formation of Romantic Relationships and Their Impact on Emotional Well-Being
    - 1.7.3.2. The Choice of Partner and the Factors that Influence Relationship Stability
    - 1.7.3.3. The Transition to Family Life: Raising Children

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1	.7.4.	Erikson's	Stage:	Intimacy	versus	Isolation

- 1.7.4.1. The Ability to Form Deep and Close Relationships
- 1.7.4.2. The Impact of Loneliness on Emotional and Social Health
- 1.7.4.3. How Sexuality Contributes to the Development of a Sense of Identity

#### 1.8. Development in Middle Adulthood

- 1.8.1. Physical Changes: Menopause, Andropause and General Health
  - 1.8.1.1. The Hormonal Effects of Menopause in Women
  - 1.8.1.2. The Physical Changes Associated with Andropause in Men
  - 1.8.1.3. The Importance of Maintaining Balanced General Health in Middle Adulthood
- 1.8.2. Reassessment of Goals and "Midlife Crisis"
  - 1.8.2.1. Reflection on Personal and Professional Achievements
  - 1.8.2.2. The Challenge of the "Midlife Crisis" and its Psychological Effects
  - 1.8.2.3. The Role of Work and Family in Reevaluating Goals
- 1.8.3. Development of Crystallized Intelligence and Practical Skills
  - 1.8.3.1. The Accumulation of Experience and Technical Skills
  - 1.8.3.2. The Importance of Emotional Intelligence in Problem Solving
  - 1.8.3.3. The Relevance of Practical Wisdom in Decision Making
- 1.8.4. Erikson's Stage: Intimacy versus Stagnation
  - 1.8.4.1. The Importance of Contributing to the Well-being of Others
  - 1.8.4.2. The Sense of Accomplishment and the Legacy Left Behind
  - 1.8.4.3. The Risk of Stagnation When a Significant Difference Is Not Felt to Have Been Made

#### 1.9. Development in Late Adulthood

- 1.9.1. Physical Changes and Adaptation to Limitations
  - 1.9.1.1. The Challenges of Aging: Loss of Agility and Mobility
  - 1.9.1.2. The Importance of Medical Interventions and Exercise in Old Age
  - 1.9.1.3. How Older Adults Adapt to Physical Limitations
- 1.9.2. Cognition in Old Age: Memory, Attention, and Thought
  - 1.9.2.1. Changes in Memory and the Capacity to Retain Information
  - 1.9.2.2. The Decline in Selective Attention and Concentration
  - 1.9.2.3. The Impact of Cognitive Stimulation on Cognition in Old Age

- 1.9.3. Emotional Adjustment and the Search for Meaning in Life
  - 1.9.3.1. The Importance of Finding Purpose and Meaning in Life
  - 1.9.3.2. Managing Complex Emotions, Such as Sadness and Nostalgia
  - 1.9.3.3. Coping with Mortality and Accepting Aging
- 1.9.4. Erikson's Stage: Integrity Versus Despair
  - 1.9.4.1. Reflection on Life and the Achievement of Inner Peace
  - 1.9.4.2. The Struggle against Despair over Unachieved Goals
  - 1.9.4.3. The Impact of Family and Friends on the Perception of Integrity
- 1.10. Final Stage of Life, Death and Mourning
  - 1.10.1. The Final Stage of Life: Biological Changes and Types of Death (Clinical, Brain Death, Social Death)
    - 1.10.1.1. The Biology of Death: Physiological Processes at the End of Life
    - 1.10.1.2. Clinical Death and Brain Death: Differences and Meanings
    - 1.10.1.3. Social Death and the Role of Society in the Dying Process
  - 1.10.2. Facing Mortality: Attitudes Towards Death
    - 1.10.2.1. Cultural Attitudes Towards Death in Different Societies
    - 1.10.2.2. The Fear of Death and its Psychological Effects
    - 1.10.2.3. Acceptance of Death as a Natural Part of Life
  - 1.10.3. Palliative Care and Quality of Life in the Terminal Stage
    - 1.10.3.1. The Objective of Palliative Care: Alleviating Suffering
    - 1.10.3.2. The Role of Health Professionals in End-of-Life Care
    - 1.10.3.3. How to Improve Quality of Life During the Terminal Stage
  - 1.10.4. Final Reflection Based on Erikson's Theory: Integrity and Closure
    - 1.10.4.1. The Importance of Accepting Death to Achieve Integrity
    - 1.10.4.2. Closure: Conflict Resolution and Inner Peace
    - 1.10.4.3. The Connection Between Personal Legacy and Acceptance of Death

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## Module 2. Psychology of Language

- 2.1. Neurobiological Basis Involved in Language
  - 2.1.1. Introduction
  - 2.1.2. Language Definitions
  - 2.1.3. Historical Background
  - 2.1.4. Summary
  - 2.1.5. Bibliographical References
- 2.2. Language Development
  - 2.2.1. Introduction
  - 2.2.2. Appearance of Language
  - 2.2.3. Acquisition of Language
  - 2.2.4. Summary
  - 2.2.5. Bibliographical References
- 2.3. Neuropsychological Approaches to Language
  - 2.3.1. Introduction
  - 2.3.2. Brain Processes of Language
  - 2.3.3. Brain Areas Involved
  - 2.3.4. Neurolinguistic Processes
  - 2.3.5. Brain Centers Involved in Comprehension
  - 2.3.6. Summary
  - 2.3.7. Bibliographical References
- 2.4. Neuropsychology of Language Comprehension
  - 2.4.1. Introduction
  - 2.4.2. Brain Areas Involved in Comprehension
  - 2.4.3. Sounds
  - 2.4.4. Syntactic Structures for Linguistic Comprehension
  - 2.4.5. Semantic Processes and Meaningful Learning
  - 2.4.6. Reading Comprehension
  - 2.4.7. Summary
  - 2.4.8. Bibliographical References

- 2.5. Communication Through Language
  - 2.5.1. Introduction
  - 2.5.2. Language as a Tool for Communication
  - 2.5.3. Evolution of Language
  - 2.5.4. Social Communication
  - 2.5.5. Summary
  - 2.5.6. Bibliographical References
- 2.6. Language Disorders
  - 2.6.1. Introduction
  - 2.6.2. Speech and Language Disorders
  - 2.6.3. Professionals Involved in the Treatment
  - 2.6.4. Classroom Implications
  - 2.6.5. Summary
  - 2.6.6. Bibliographical References
- 2.7. Aphasia
  - 2.7.1. Introduction
  - 2.7.2. Types of Aphasia
  - 2.7.3. Diagnosis
  - 2.7.4. Assessment
  - 2.7.5. Summary
  - 2.7.6. Bibliographical References
- 2.8. Language Stimulation
  - 2.8.1. Introduction
  - 2.8.2. Importance of Language Stimulation
  - 2.8.3. Phonetic-Phonological Stimulation
  - 2.8.4. Lexical-Semantic Stimulation
  - 2.8.5. Morphosyntactic Stimulation
  - 2.8.6. Pragmatic Stimulation
  - 2.8.7. Summary
  - 2.8.8. Bibliographical References

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- 2.9. Reading and Writing Disorders
  - 2.9.1. Introduction
  - 2.9.2. Delayed Reading
  - 2.9.3. Dyslexia
  - 2.9.4. Dysorthographia
  - 2.9.5. Dysgraphia
  - 2.9.6. Treatment of Reading and Writing Disorders
  - 2.9.7. Summary
  - 2.9.8. Bibliographical References
- 2.10. Evaluation and Diagnosis of Language Difficulties
  - 2.10.1. Introduction
  - 2.10.2. Language Assessment
  - 2.10.3. Language Assessment Procedures
  - 2.10.4. Psychological Tests for Assessing Language
  - 2.10.5. Summary
  - 2.10.6. Bibliographical References
- 2.11. Intervention in Language Disorders
  - 2.11.1. Introduction
  - 2.11.2. Implementation of Improvement Programs
  - 2.11.3. Improvement Programs
  - 2.11.4. Improvement Programs Using New Technologies
  - 2.11.5. Summary
  - 2.11.6. Bibliographical References
- 2.12. Incidence of Language Difficulties on Academic Performance
  - 2.12.1. Introduction
  - 2.12.2. Linguistic Processes
  - 2.12.3. Incidence of Language Disorders
  - 2.12.4. Relationship Between Hearing and Language
  - 2.12.5. Summary
  - 2.12.6. Bibliographical References

- 2.13. Guidance for Parents and Teachers
  - 2.13.1. Introduction
  - 2.13.2. Language Stimulation
  - 2.13.3. Reading Stimulation
  - 2.13.4. Summary
  - 2.13.5. Bibliographical References

## Module 3. Learning Disorders: Literacy

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

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	3.2.1.	The Brain and its Cognitive Functions in Literacy
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		3.2.1.2. Cognitive Processing of Literacy
	3.2.2.	Neuroplasticity and its Impact on Learning to Read and Write
		3.2.2.1. The Concept of Neuroplasticity in the Context of Learning
		3.2.2.2. Pedagogical Strategies to Promote Neuroplasticity in School Learning
	3.2.3.	Brain Areas Involved in Mathematical Thinking
		3.2.3.1. Cortical Areas Involved in Numerical Processing and Mathematical Operations
		3.2.3.2. Interaction Between Brain Areas in Mathematical Reasoning
		3.2.3.3. Cognitive Processing of Mathematical Calculation
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		3.3.1.1. Influence of Genetic Factors on the Development of Academic Skills
		3.3.1.2. Genetic Disorders Affecting Reading, Writing and Arithmetic (e.g. Dyslexia and Dyscalculia)
		3.3.1.3. Inheritance and Predisposition to Learning Difficulties
	3.3.2.	Environmental Factors: Home, School and Culture
		3.3.2.1. Influence of the Family Environment on Child Learning
		3.3.2.2. The Impact of the School Environment and the Curriculum on the Development of Linguistic and Mathematical Skills
	3.3.3.	Influence of Socioeconomic Factors on Academic Performance
		3.3.3.1. Effects of Poverty on Access to Educational Resources and Family Support
		3.3.3.2. Inequalities in Academic Performance due to Socioeconomic Factors
	3.3.4.	Early Stimulation in the Development of Academic Skills
		3.3.4.1. The Impact of Early Stimulation on Literacy and Numeracy
		3.3.4.2. Strategies for Cognitive Stimulation in the Early Years

3.4.		ual Development and Learning Capacity for Literacy and Numeracy: ological Factors		
	3.4.1.	Psychological Theories of Cognitive Development in Childhood		
	0	3.4.1.1. Piagets Theory		
		3.4.1.2. Vygotsky's Sociocultural Theory		
		3.4.1.3. Gardner's Theory of Multiple Intelligences		
	3.4.2.	Motivation and its Impact on Learning of Literacy and Numeracy		
	01 1121	3.4.2.1. The Theories of Motivation in the Context of Academic Learning		
		3.4.2.2. Factors Affecting Motivation		
		3.4.2.3. Teaching Strategies to Increase Motivation in Students with Difficulties		
	3.4.3.	The Role of Impulsivity in School Learning		
		3.4.3.1. Impulsivity as a Barrier in the Reading and Arithmetic Process		
		3.4.3.2. Relationship Between Impulsivity and Errors in Text Comprehension		
		3.4.3.3. Strategies for Managing Impulsivity in the Classroom		
	3.4.4.	The Influence of Self-Esteem on Academic Performance		
		3.4.4.1. The Relationship Between Self-Esteem and Academic Success in Literac and Numeracy		
		3.4.4.2. Factors Affecting Self-Esteem in Children with Learning Difficulties		
		3.4.4.3. Interventions to Improve Self-Esteem in Students with Difficulties		
8.5.	Theore	Theoretical Models in the Acquisition of Literacy		
	3.5.1.	Cognitive Models and their Application in the Teaching of Literacy		
		3.5.1.1. The Information Processing Model in Literacy		
		3.5.1.2. Application of Cognitive Models to Improve Reading Comprehension		
		3.5.1.3. Teaching Strategies Based on Cognitive Models		
	3.5.2.	Theory of Parallel Processing and its Relationship with Literacy		
		3.5.2.1. Fundamentals of Parallel Processing Theory		
		3.5.2.2. Applications of Parallel Processing Theory in Literacy		
	3.5.3.	Serial and Interactive Models in Literacy Learning		
		3.5.3.1. Differences between Serial and Interactive Models		
		3.5.3.2. Application of these Models in the Teaching of Reading and Writing		
	3.5.4.	Connectionist Models and their Application in the Teaching of Literacy		
		3.5.4.1. Basic Principles of Connectionist Models		

3.5.4.2. How Connectionist Models Facilitate the Acquisition of Literacy

3 9 1 3 Common Characteristics of Children with MLD

#### 3.6. Variables that Influence Literacy Strategies for Early Intervention in Dyslexia 3.6.1. The Importance of Frequency in the Acquisition of Literacy 3.7.4.1. Strategies to Improve Word Recognition 3.7.4.2. Methods to Improve Reading Fluency 3.6.1.1. The Role of Repetition in Learning Words and Sounds 3.6.1.2. How the Frequency of Exposure to Words Improves Reading Comprehension 3.7.4.3. Strategies to Improve Reading Comprehension 3.6.1.3. Strategies for Increasing the Frequency of Reading Practice Diagnosis and Evaluation of Dyslexia 3.6.2. The Impact of the Order of Word Acquisition on Learning 3.7.5.1. Diagnostic Methods for Dyslexia 3.6.2.1. Theories on the Natural Order of Word Acquisition 3.7.5.2. The Importance of Early Assessment 3.7.5.3. Multidisciplinary Assessment: Psychologists, Speech Therapists and 3.6.2.2. The Impact of Order on Vocabulary Building and Comprehension Pedagogues in Diagnosis 3.6.2.3. Speech Therapy Applications to Improve Reading Acquisition Dysgraphia and Dysorthographia 3.6.3. Linguistic Factors: Familiarity, Length, Imaginability and Syllabic Frequency 3.8.1. Definition of Dysgraphia and Dysorthographia 3.6.3.1. Familiarity of Words 3.8.1.1. Differences between Dysgraphia and Dysorthographia 3.6.3.2. The Effect of Word Length and Complexity on Comprehension 3.8.1.2. Typical Manifestations of Dysgraphia and Dysorthographia 3.6.3.3. Relationship between the Imaginability of Words and their Comprehension 3.8.1.3. Relationship between Dysgraphia and Dysorthographia 3.6.4. Relationship between Literacy Variables and Academic Performance 3.8.1.4. Neurological Causes 3.6.4.1. Reading Proficiency and Success in Other Academic Subjects 3.8.2. Classification of Central Dysgraphias 3.6.4.2. Literacy Skills Related to Performance in Mathematics 3.8.2.1. Types of Dysgraphia: Phonological, Surface and Deep 3.6.4.3. Strategies to Improve Academic Performance through Literacy 3.8.2.2. Neurological Causes of Central Dysgraphia 3.6.5. Practical Applications of Determining Variables in the Classroom 3.8.2.3. Characteristics of Writing in Central Dysgraphia 3.6.5.1. Teaching Activities Based on Word Frequency and Familiarity 3.8.3. Peripheral Dysgraphia: Motor Dysgraphia (Dysorthographia) 3.6.5.2. Strategies to Improve Comprehension of Long and Complex Texts 3.8.3.1. Definition of Motor Dysgraphia and its Characteristics 3.6.5.3. Strategies to Enhance Learning of High Syllable Frequency Words 3.8.3.2. The Relationship Between Fine Motor Control and Difficulties in Writing 3.7. Dyslexia and Reading Delay 3.8.3.3. Characteristics of Dysorthography 3.7.1. Definition of Dyslexia and Reading Delay 3.8.4. Assessment of Dysgraphia 3.7.1.1. Differences between Dyslexia and Reading Delay 3.8.4.1. Diagnostic Tools for the Assessment of Dysgraphia 3.7.1.2. Common Characteristics of Dyslexia and Reading Delay 3.8.4.2. Methods of Observation and Written Assessment in Diagnosis 3.7.1.3. Causes and Initial Manifestations of Both Disorders 3.8.5. Intervention and Treatment for Dysgraphia and Dysorthographia 3.7.2. Causes and Risk Factors for the Development of Dyslexia 3.8.5.1. Therapeutic Strategies to Improve Motor Skills in Writing 3.7.2.1. Genetic and Hereditary Factors 3.8.5.2. Methods to Correct Spelling Errors in Children with Dysorthographia 3.7.2.2. The Influence of the Prenatal Environment 3.8.5.3. Speech Therapy Techniques and Intervention Programs 3.7.2.3. Neurobiological Factors 3.9. Difficulties in Learning Mathematics (MLD) 3.7.3. Characteristics of Dyslexia 3.9.1. Definition of Difficulties in Learning Mathematics (MLD) 3.7.3.1. Common Reading Errors 3.9.1.1. Concept of Difficulties in Learning Mathematics 3.7.3.2. Phonological Awareness and Dyslexia 3.9.1.2. The Distinction Between Learning Difficulty and Cognitive Deficit 3.7.3.3. Word Identification and Reading Comprehension

## tech 22 | Syllabus

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





## Syllabus | 23 tech

- 3.10.3. Logical Thinking and its Relationship to Reading Comprehension3.10.3.1. Definition of Logical Thinking and its Components (Reasoning, Analysis and Problem Solving)
  - 3.10.3.2. How Logical Thinking Influences the Interpretation and Analysis of Texts
- 3.10.4. Strategies to Improve Reading Comprehension and Logical Thinking
   3.10.4.1. Pedagogical Intervention Strategies to Improve Reading Comprehension
   3.10.4.2. Techniques to Stimulate Logical Thinking in Students with Learning Difficulties
  - 3.10.4.3. Technological Tools and Multisensory Methods to Support Learning
- 3.10.5. Assessment of Reading Comprehension and Logical Thinking3.10.5.1. Methods for Assessment of Reading Comprehension: Standardized Tests and Observation
- 3.10.6. Strategies to Improve Reading Comprehension 3.10.6.1. Metacognitive Strategies
  - 3.10.6.2. Language Strategies



You will evaluate language disorders from a multidisciplinary approach, implementing effective intervention strategies based on scientific evidence, thanks to an extensive library of multimedia resources"





## tech 26 | Teaching Objectives



## **General Objectives**

- Analyze the stages of human development, from the prenatal period to old age, identifying the biological, psychological and social factors that influence physical, cognitive, emotional and social changes throughout life
- Analyze the neurobiological bases that underpin language and its functional implications
- Integrate the psychological and linguistic foundations essential for speech therapy, including language development, neuropsychology and the basic processes of speech



You will address learning disorders related to reading and writing, equipping you with effective diagnostic and treatment tools for various contexts, such as the family, school and clinical settings"





## Teaching Objectives | 27 tech



## **Specific Objectives**

## Module 1. Developmental Psychology

- Use theoretical and empirical knowledge of Evolutionary Psychology to understand the development of linguistic and communicative skills, facilitating the diagnosis and treatment of Language Disorders
- Critically evaluate the fundamental theories and empirical research in Evolutionary
   Psychology in order to apply evidence-based solutions in the professional context of
   Speech Therapy

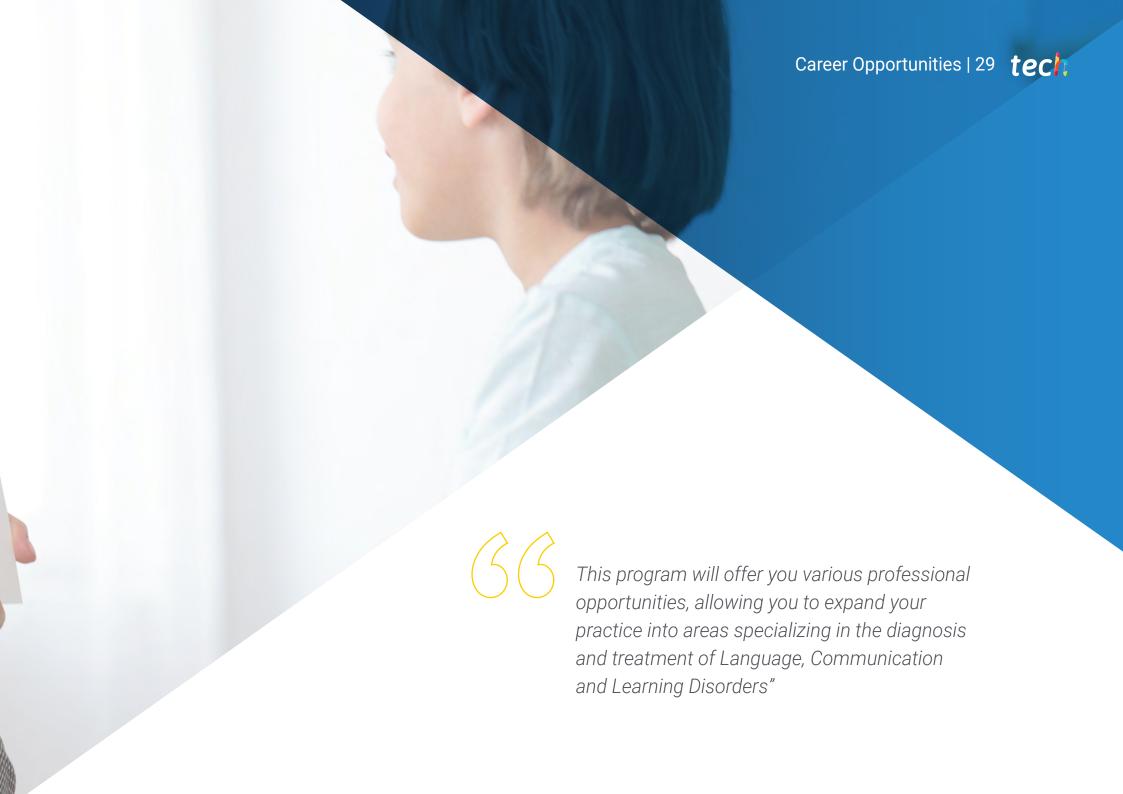
#### Module 2. Psychology of Language

- Explore the development and acquisition of language from its emergence to maturity
- Examine neuropsychological approaches related to language processing and comprehension
- Evaluate Language Disorders and their appropriate methods of intervention and stimulation

#### Module 3. Learning Disorders: Literacy

- Know and recognize communication, language, speech, voice and non-verbal oral function disorders
- Apply assessment techniques to diagnose language disorders and write speech therapy reports
- Intervene appropriately in different contexts (family, school, clinical) to treat Language Disorders
- Design, program and evaluate speech therapy interventions using appropriate techniques and resources





## tech 30 | Career Opportunities

#### **Graduate Profile**

The graduate will be a professional with a solid theoretical and practical grounding in language development and its disorders, capable of applying this knowledge in their medical practice. They will also have a deep understanding of the cognitive, neurological and psychological processes involved in language acquisition and evolution, enabling them to make accurate diagnoses and design effective interventions. In addition, they will have the necessary skills to work as part of a team with other professionals, such as speech therapists and psychologists, in different environments, such as clinics, hospitals, schools and research centers.

Their multidisciplinary approach and ability to apply evidence-based solutions will enable them to comprehensively address communication and cognitive difficulties, thus improving the well-being of their patients.

- Interdisciplinary Work: Collaborate with professionals from different disciplines, such as speech therapists, educators and psychologists, to design and apply personalized interventions that address the linguistic and communicative needs of patients
- Effective Communication: Communicate clearly and assertively with patients, their families and other health and education professionals, improving the coordination of treatments and the understanding of patient needs
- Critical Assessment and Evidence-Based Decision Making: Analyze and interpret academic research and clinical data, applying evidence-based approaches to diagnose, evaluate and treat language disorders
- Professional Ethics and Commitment to Inclusion: Ethical and responsible attitude
  in professional practice, promoting gender equality, attention to diversity and
  sustainability, to ensure that patients receive inclusive and respectful care





## Career Opportunities | 31 **tech**

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

- **1. Specialist in Language and Communication Disorders:** Physician specialized in the diagnosis and treatment of Language Disorders, such as Dyslexia, Aphasia and Autism Spectrum Disorders.
- **2. Neurological Rehabilitation Physician:** Professional in charge of treating patients with Neurological Disorders that affect communication, language and cognition.
- **3. Consultant in Evolutionary and Language Psychology:** Physician who advises educational institutions and clinics on language development and early intervention in children.
- **4. Language Neuroscience Researcher:** Professional dedicated to researching the neurological processes involved in the development of Language Disorders.
- **5. Speech Therapy Intervention Program Coordinator:** Physician who supervises and coordinates intervention programs to treat Language Disorders in various settings, such as clinics and schools.
- **6. Physician in Language Support Education Centers:** Expert who works in schools or educational centers, providing support to students with language difficulties.
- **7. Specialist in Learning Disorders:** Physician who diagnoses and treats language-related learning disorders such as dyslexia and dysgraphia.
- **8. Child and Adolescent Health Program Director:** Professional who leads programs dedicated to language health and the cognitive development of children and adolescents.



You will write speech therapy reports, which will facilitate the documentation and follow-up of each case, and ensure personalized and quality care for patients with language difficulties"



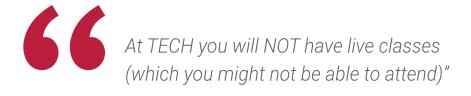


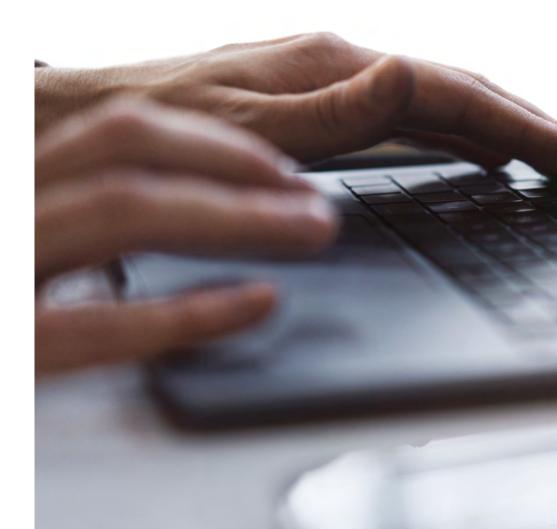
## The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.

The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

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







## The most comprehensive study plans at the international level

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

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

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



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

## tech 36 | Study Methodology

#### Case Studies and Case Method

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

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

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



## Relearning Methodology

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

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

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

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





## A 100% online Virtual Campus with the best teaching resources

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

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

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

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



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

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

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

## The university methodology top-rated by its students

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

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

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

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



## tech 40 | Study Methodology

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



#### **Study Material**

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

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



## **Practicing Skills and Abilities**

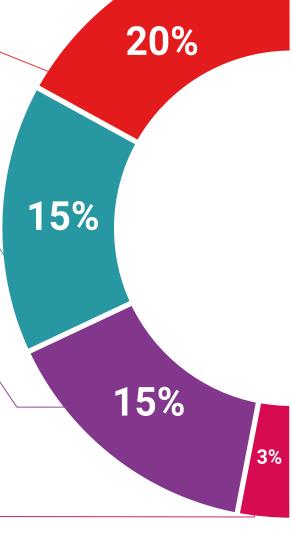
You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.



#### **Interactive Summaries**

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

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





#### **Additional Reading**

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

## Study Methodology | 41 tech



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



#### **Testing & Retesting**

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



#### Classes

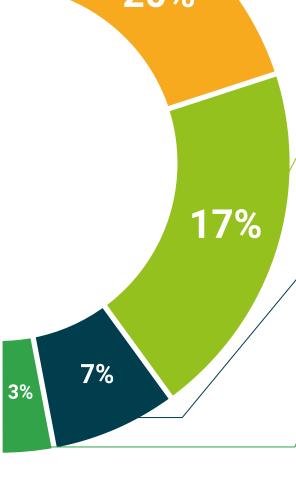
There is scientific evidence suggesting that observing third-party experts can be useful.



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

#### **Quick Action Guides**

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







## tech 44 | Certificate

This private qualification will allow you to obtain a diploma for the **Postgraduate Diploma in Psychology and Language Development** endorsed by TECH Global University, the world's largest online university.

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

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

Title: Postgraduate Diploma in Psychology and Language Development

Modality: online

Duration: 6 months

Accreditation: 18 ECTS



#### Postgraduate Diploma in Psychology and Language Development

This is a private qualification of 540 hours of duration equivalent to 18 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

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

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



health confidence people
leducation information tutors
guarantee accreditation teaching
institutions technology learning



# Postgraduate Diploma Psychology and Language Development

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Accreditation: 18 ECTS
- » Schedule: at your own pace
- » Exams: online

