

# Postgraduate Certificate

## Incidence of Motor Action on Brain Learning Processes and Health Development



## Postgraduate Certificate Incidence of Motor Action on Brain Learning Processes and Health Development

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/education/postgraduate-certificate/incidence-motor-action-brain-learning-processes-health-development](http://www.techtute.com/us/education/postgraduate-certificate/incidence-motor-action-brain-learning-processes-health-development)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 14*

04

Structure and Content

---

*p. 16*

05

Methodology

---

*p. 20*

06

Certificate

---

*p. 28*

# 01

# Introduction

Scientific studies have shown that motor skills are a key factor in children's learning, since movement is a motivating agent capable of leading them to action. Therefore, motor skills have come to be considered much more than the simple motor development of the child, to become an essential part of academic programs in schools. For this reason, TECH has created this 100% online program, which offers teachers the basis for understanding how motor action affects learning and the development of the person. All this, through an advanced syllabus, accompanied by multimedia teaching materials and developed by the best specialists in Neuroeducation.







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*Psychomotor skills are key in the learning process. Learn everything you need about this exciting field thanks to TECH”*

Working with movement allows children to develop their identity, control their bodies, express themselves and communicate their emotions. That is why nowadays many pedagogical systems promote play in the classroom as a key element both for the improvement of motor action and learning.

A new philosophy that has a direct impact on the academic performance and personality of the child. That is why, from an early age, actions are promoted in the classroom where motor skills are the axis of the educational activity to be carried out. Given this reality, TECH provides students with a Postgraduate Certificate that will introduce them to the impact of motor action in the learning process.

For this, the teaching professionals have an advanced syllabus, with which they can delve into the benefits of motor action on the brain processes of learning, neurotransmitters and hormones related to motor practice or the effects of exercise on brain protection. All this, in addition, through an innovative multimedia content, which will allow you to acquire the concepts in a much more attractive way. Likewise, with the Relearning method, students will be able to progressively advance through the content, reducing even the long hours of study and memorization.

This institution offers, in this way, an excellent opportunity to progress professionally in the teaching sector through a flexible and 100% online program. Students taking this Postgraduate Certificate will only need an electronic device with an Internet connection to access, comfortably and at any time, the content hosted on the Virtual Campus. A teaching method compatible with the most demanding responsibilities and at the forefront of the university academic system.

This **Postgraduate Certificate in Incidence of Motor Action on Brain Learning Processes and Health Development** contains the most complete and up-to-date educational program on the market. The most important features include:

- ♦ Case studies presented by experts in Neuroeducation and Physical Education
- ♦ 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 self-assessment can be used to improve learning
- ♦ Its special emphasis on innovative methodologies
- ♦ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



*This Postgraduate Certificate will lead you to understand how motor action predisposes you to learn. Enroll now"*

“

*Expand your knowledge about the benefits of motor action in the brain's learning processes without giving up the rest of your daily activities”*

The program's teaching staff includes professionals from sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will provide the professionals with situated and contextual learning, i.e., a simulated environment that will provide an immersive education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professionals must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the students will be assisted by an innovative interactive video system created by renowned experts.

*You have a library of multimedia resources that will lead you to delve dynamically into the impact of motor action with decision making.*

*In this program, you will delve into the relationship between motor action and memory processes.*





# 02

# Objectives

TECH offers a unique opportunity for professional growth through a Postgraduate Certificate that will lead to improve their knowledge of motor action and its impact on the learning process. To do this, this institution provides students with the most innovative pedagogical tools and an excellent team of specialized professionals who will guide them during the 150 teaching hours of this program.







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*Enroll now in a program designed to offer you the essential knowledge about motor skills and boost your students' learning through movement"*



## General Objectives

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- ♦ Know the basis and main elements of Neuroeducation
- ♦ Integrate the new contributions of Brain Science in the teaching-learning processes
- ♦ Discover how to enhance brain development through motor action
- ♦ Implement the innovations of Neuroeducation in the subject of Physical Education
- ♦ Achieve specialized education as a Neuroeducation professional in the field of motor action







## Specific Objectives

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- Explain the main neurotransmitters and hormones related to motor practice and learning ability
- Apply strategies for disease prevention and improvement of quality of life in terms of cardiovascular and other risk diseases
- Describe the different motor tasks that have an impact on brain development

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*Learn how you can activate and improve the memorization capacity of your students through this Postgraduate Certificate”*

03

# Course Management

TECH maintains a philosophy based on offering all students a quality education. Therefore, it carries out a rigorous selection process of all teachers who teach the programs. This way, the graduates will find in this program a multidisciplinary management and teaching staff, with extensive knowledge in Neuroscience and Physical Activity Sciences. An excellent team, which will lead you to achieve your goals of professional progression, through an intensive program and of great practical utility.







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*A multidisciplinary teaching team will be in charge of bringing you the latest news about the importance of motor action in learning processes”*

## Management



### **Ms. Pellicer Royo, Irenez**

- ♦ Postgraduate Diploma in Emotional Education at the Jesuitas-Caspe School, Barcelona
- ♦ Professional Master's Degree in Medical Sciences Applied to Physical Activity and Sport by the University of Barcelona
- ♦ Professional Master's Degree in Emotional Education and Well-being from the University of Barcelona
- ♦ Degree in Physical Activity and Sport Sciences at the University of Lérida

## Professors

### Dr. Navarro Ardoy, Daniel

- ♦ Principal CEO at Teacher MBA
- ♦ PROFITH (PROmoting FITness and Health) Research Group
- ♦ SAFE Research Group
- ♦ EFFECTS 262 Research Group
- ♦ Physical Education Teacher
- ♦ PhD in Physical Education Applied to Health by the Physical Activity and Health Program of the University of Granada
- ♦ PhD in Physical Education Applied to Health with research stay at Karolinska Institutet in Stockholm
- ♦ Degree in Physical Activity and Sport Sciences from the University of Granada

### Ms. Rodríguez Ruiz, Celia

- ♦ Clinical Psychologist at EVEL Center
- ♦ Psychopedagogical Area Manager at Atenea Study Center
- ♦ Pedagogical Advisor at Cuadernos Rubio
- ♦ Editor of Hacer Familia Magazine
- ♦ Editor of Webconsultas Healthcare Medical Team
- ♦ Collaborator at the Eduardo Punset Foundation
- ♦ Degree in Psychology, UNED
- ♦ Degree in Pedagogies from the Complutense University of Madrid
- ♦ University Specialist in Cognitive Behavioral Therapy in Childhood and Adolescence by the UNED
- ♦ Specialist in Clinical Psychology and Child Psychotherapy by INUPSI
- ♦ Trained in Emotional Intelligence, Neuropsychology, Dyslexia, ADHD, Positive Emotions and Communication

### Dr. De la Serna, Juan Moisés

- ♦ Writer specializing in Psychology and Neurosciences
- ♦ Author of the Open Chair in Psychology and Neurosciences
- ♦ Scientific disseminator
- ♦ PhD in Psychology
- ♦ Degree in Psychology. University of Seville
- ♦ Professional Master's Degree in Neurosciences and Behavioral Biology Pablo de Olavide University, Seville
- ♦ Postgraduate Diploma in Teaching Methodology. La Salle University
- ♦ University Specialist in Clinical Hypnosis, Hypnotherapy. National University of Distance Education - UNED
- ♦ Postgraduate Certificate in Social Graduate, Human Resources Management, Personnel Administration. University of Seville
- ♦ Postgraduate Diploma in Project Management, Administration and Business Management. Federation of Services U.G.T
- ♦ Trainer of Trainers. Official College of Psychologists of Andalusia

# 04

## Structure and Content

Video summaries, videos in detail, essential readings or case studies are just some of the pedagogical tools that make up this program. In this way, students will acquire a much simpler and more attractive learning about motor action and its relationship with the knowledge and development of the person. In addition, the graduates will have a syllabus that can be accessed 24 hours a day, 7 days a week, being perfectly compatible with personal and professional activities.







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*Access to quality content, which will lead you to delve into the important role of movement in the development of the personality of students"*

## Module 1. Impact of Motor Action on Brain Learning Processes and on Health Development

- 1.1. Impact of Motor Action on Learning Processes
  - 1.1.1. Concepts Related to Motor Action and Learning
  - 1.1.2. Motor Learning: Phases and Factors
  - 1.1.3. The Information Processing Model: Perception, Decision, Execution, Movement Control and Feedback
  - 1.1.4. Benefits of Motor Action on Brain Learning Processes
- 1.2. Motor Action and Neurophilic Factors. BDNF
  - 1.2.1. Neurogenesis and Neuroplasticity
  - 1.2.2. Neurotrophins or Neurotrophic Factors. What are They and What are They For?
  - 1.2.3. Prominent Role and Benefits of Motor Action on BDNF
- 1.3. Motor Action, Neurotransmitters and Hormones
  - 1.3.1. The Main Neurotransmitters and Hormones Related to Motor Practice and Learning Abilities
  - 1.3.2. Endorphins
  - 1.3.3. Serotonin
  - 1.3.4. Oxytocin
- 1.4. Dopamine
  - 1.4.6. Adrenaline and Noradrenaline
  - 1.4.7. Glucocorticoids
- 1.5. The Importance of the Cerebellum in Coordination and Cognitive Processes
  - 1.5.1. Structure of the Cerebellum
  - 1.5.2. Functions of the Cerebellum and its Importance in Motor Action
  - 1.5.3. Importance of the Cerebellum in Cognitive Processes
- 1.6. Impact of Motor Action on Memory Processes
  - 1.6.1. What is Memory and How is it Divided?
  - 1.6.2. In What Part of the Brain is Memory Located?
  - 1.6.3. Prominent Role of the Hippocampus in Memory
  - 1.6.4. Impact of Motor Action on Memory





- 1.7. The Prefrontal Cortex, Seat of the Brain's Executive Functions
  - 1.7.1. Executive Functions of the Brain
  - 1.7.2. The Four Lobes of Each Cerebral Hemisphere
  - 1.7.3. Frontal Lobe: Executive Director of the Brain
  - 1.7.4. The Prefrontal Cortex: The Orchestra Conductor
  - 1.7.5. Cerebral Structures Connected to the Frontal Lobe
- 1.8. Impact of Motor Action with Executive Processes: Decision-Making
  - 1.8.1. Somatic Markers
  - 1.8.2. Brain Structures Involved in Decision Making
  - 1.8.3. The Development of Somatic States
  - 1.8.4. Decision-Making in Sports Practice
- 1.9. Impact of Motor Action with Executive Processes: Pause and Reflection Response
  - 1.9.1. Regulating Emotions
  - 1.9.2. Conflicts, Inconsistencies and the Prefrontal Cortex
  - 1.9.3. The Relevance of Heart Rate
- 1.10. Motor Action and Predisposition to Learning
  - 1.10.1. Motor Action and Learning
  - 1.10.2. How Does Motor Action Predispose to Learning?
  - 1.10.3. How Can the Benefits of Motor Action be Enhanced?
- 1.11. Impact of Motor Action on Neuroprotective Processes
  - 1.11.1. Conceptualization of Neuroprotection
  - 1.11.2. Effects of Exercise on Brain Protection



*Thanks to this Postgraduate Certificate you will know how to enhance the benefits of motor action in your classes"*

05

# Methodology

This training program offers a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.







*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## 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.*

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*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:

1. 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.





## Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

Our University is the first in the world to combine case studies with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, which represent a real revolution with respect to simply studying and analyzing cases.



*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.*



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.



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 applied to the 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, you can watch them as many times as you 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 multimedia content presentation training Exclusive system 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.





#### 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 your 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.





06

# Certificate

The Postgraduate Certificate in Incidence of Motor Action on Brain Learning Processes and Health Development guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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

This **Postgraduate Certificate in Incidence of Motor Action on Brain Learning Processes and Health Development** contains the most complete and up-to-date program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery\*.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Certificate in Incidence of Motor Action on Brain Learning Processes and Health Development**

Official No. of Hours: **150 h.**



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





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