# Postgraduate Diploma

## Techniques in Data Collection Instruments in Educational Research

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# Postgraduate Diploma
## Techniques in Data Collection Instruments in Educational Research

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

Website: **www.techtitute.com/us/education/postgraduate-diploma/postgraduate-diploma-techniques-data-collection-instruments-educational-research**

# Index

01

# Introduction

The student will be able to specialize in Techniques in Data Collection Instruments in Educational Research, under the guidance of professionals with extensive experience in the sector. An opportunity to achieve professional success.

*In-depth knowledge of the Techniques in Data Collection Instruments in Educational Research and its multiple implications, in a comprehensive Postgraduate Diploma created to propel you to another professional level"*

This Postgraduate Diploma provides the necessary knowledge for the preparation of professionals in educational research. It delves into methodological reflection and practices, with emphasis on the latest developments in applied research in teaching.

This high quality program provides students with the knowledge and tools necessary for the analysis of education and its links between research and education.

Throughout this Postgraduate Diploma, the students will study all the current approaches in Techniques in Data Collection Instruments in Educational Research in the different challenges that their profession as teachers poses.

Computer resources for research and tools for data collection will be the topics of work and study that the students will be able to integrate into their specialization. A high-level step that will become a process of improvement, not only on a professional level, but also on a personal level.

This challenge is one that TECH Technological University takes on as a social commitment: to help prepare highly qualified professionals and develop their personal, social and professional skills throughout the course of their studies.

Not only does it lead students through the theoretical knowledge offered, but it also shows another way of studying and learning, one which is more organic, simpler and more efficient. TECH works to keep you motivated and to help you develop a passion for learning. And it will push you to think and develop critical thinking.

High quality education, supported by advanced technological development and the teaching experience of the best professionals. These are some of its differential qualities.

This **Postgraduate Diploma in Techniques in Data Collection Instruments in Educational Research** contains the most complete and up-to-date educational program on the market. The most important features include:

- The latest technology in online teaching software
- A highly visual teaching system, supported by graphic and schematic contents that are easy to assimilate and understand
- Practical cases presented by practising experts
- State-of-the-art interactive video systems.
- Teaching supported by telepractice
- Continuous updating and recycling systems
- Autonomous learning: full compatibility with other occupations
- Practical exercises for self-assessment and learning verification
- Support groups and educational synergies: questions to the expert, debate and knowledge forums.
- Communication with the teacher and individual reflection work
- Content that is accessible from any fixed or portable device with an Internet connection
- Supplementary documentation databases are permanently available, even after the course

*An educational program created for professionals who aspire for excellence, and that will enable you to acquire new skills and strategies easily and effectively".*

*A thorough and complete immersion in the strategies and approaches in Techniques in Data Collection Instruments in Educational Research"*

*Achieve professional success with this high-level program.*

*The basic processes of cognitive development in relation to learning and school development, in an intensive and comprehensive program.*

Our teaching staff is made up of working professionals. In this way, TECH ensure that we provide you with the up-to-date education we are aiming for. A multidisciplinary team of specialists prepared and experienced in different environments, who will develop the theoretical knowledge in an efficient way, but, above all, will put at the service of the program the practical knowledge derived from their own experience: one of the differential qualities of this Postgraduate Diploma.

This mastery of the subject is complemented by the effectiveness of the methodological design of this Postgraduate Diploma. Developed by a multidisciplinary team of e-learning experts, it integrates the latest advances in educational technology. This way, you will be able to study with a set of comfortable and versatile multimedia tools that will give you the operability you need for your specialization.

The design of this program is based on Problem-Based Learning: an approach that conceives learning as a highly practical process. To achieve this remotely, we will use telepractice: with the help of an innovative interactive video system and *Learning from an Expert* you will be able to acquire the knowledge as if you were facing the scenario you are learning at that moment. A concept that will make it possible to integrate and fix learning in a more realistic and permanent way.

02

# Objectives

Our objective is to prepare highly qualified professionals for the work environment. An objective that is complemented, moreover, in a global manner, by promoting human development that lays the foundations for a better society. This objective is focused on helping professionals reach a much higher level of expertise and control. A goal that, in just a few months, can be achieved with a high intensity and precision program.

*If your goal is to improve in your profession, to acquire a qualification that will enable you to compete among the best, then look no further: welcome to TECH"*

## General Objectives

- Qualify professionals for the exercise of Techniques in Data Collection Instruments in Educational Research
- Learn how to carry out specific programs to improve school performance
- Access to the forms and processes of Techniques in Data Collection Instruments in Educational Research in the school environment.
- Analyze and integrate the knowledge necessary to foster students' school and social development

*Our objective is very simple: to offer you quality education, with the best teaching system available today, so that you can achieve excellence in your profession"*



## Specificobjectives

### Module 1. Educational research computer resources

- Apply criteria to evaluate information
- Ethical and legal use of information
- Know the process of scientific publication
- Communicate and disseminate information
- Manage computer resources for quantitative data
- Manage computer resources for qualitative data

### Module 2. Techniques and Instruments for Data Collection in Qualitative Research

- Know the techniques for categorizing, analyzing and summarizing qualitative information.
- Knowing the quality of the instruments
- Identify and properly use the instruments used to collect information.
- Adequately record the information obtained through the observation technique
- Know the ethics of qualitative information.

### Module 3. Data Collection Techniques and Instruments and Measurement

- Learn basic psychometric concepts
- Knowing the research process
- Acquire skills for the collection of information using quantitative techniques.
- Acquire knowledge for the process of elaboration of instruments.
- Learning to analyze the reliability and validity of an instrument
- Handling and interpreting psychometric test scores

03

# Structure and Content

The contents of this program have been developed by the different teachers of this program, with a clear purpose: to ensure that our students acquire each and every one of the skills necessary to become true experts in this field.

The content of this program will allow the student to learn all aspects of the different disciplines involved in this area. A complete and well-structured program will take you to the highest standards of quality and success.

*Through a complete but very well compartmentalized development, you will be able to access the most advanced knowledge at the moment in Techniques in Data Collection Instruments in Educational Research"*

## **Module 1.** Educational research computer resources

1.1. Documentary Resources in Educational Research
- 1.1.1. Introduction
- 1.1.2. Introduction of Documentary Resources in Educational Research
- 1.1.3. Dissemination and Communication of Scientific-Academic Information
- 1.1.4. Academic Scientific Language
- 1.1.5. Access to Information: Bibliographic Databases

1.2. Information Search and Retrieval
- 1.2.1. Introduction
- 1.2.2. Search for Information
- 1.2.3. Information Search Strategies: Interfaces
- 1.2.4. Search for Electronic Journals
- 1.2.5. Bibliographic Databases

1.3. Access to Information Sources
- 1.3.1. Introduction
- 1.3.2. Databases
- 1.3.3. Electronic Magazines
- 1.3.4. Institutional Repositories
- 1.3.5. Scientific Social Networks
- 1.3.6. Information Managers

1.4. Thesauri
- 1.4.1. Introduction
- 1.4.2. Concept of Thesauri
- 1.4.3. Characteristics of Thesaurus
- 1.4.4. Terminology of Thesaurus

1.5. Thesauri: Database Usage
- 1.5.1. Introduction
- 1.5.2. Thesaurus Nomenclature
- 1.5.3. Thesaurus Hierarchy
- 1.5.4. Database

1.6. Information Evaluation Criteria
- 1.6.1. Introduction
- 1.6.2. Criteria for Evaluating Bibliographic Sources
- 1.6.3. Bibliometric Indicators
- 1.6.4. Book Evaluation and Publisher Ranking

1.7. Communication of Information
- 1.7.1. Introduction
- 1.7.2. Academic Scientific Language
- 1.7.3. Legal use of Information
- 1.7.4. Communication of Information
- 1.7.5. The Scientific Publication Process

1.8. SPSS (I)- Statistical Computing Tool for quantitative data
- 1.8.1. Introduction
- 1.8.2. Introduction to SPSS
- 1.8.3. Structure of SPSS
- 1.8.4. How to Handle Data Files?

1.9. SPSS (II)- Descriptive Analysis of variables
- 1.9.1. Introduction
- 1.9.2. Menu Bar and SPSS tools
- 1.9.3. Create New Files
- 1.9.4. How to Define a Variable?

1.10. Computer Resources Qualitative Data
- 1.10.1. Introduction
- 1.10.2. Programs and Resources for Qualitative Data Collection
- 1.10.3. Computer Resources for Analyzing Qualitative Data
- 1.10.4. Other Programs for Information Analysis



**Module 2.** Techniques and Instruments for Data Collection in Qualitative Research

2.1. Introduction
- 2.1.2. Research Methodology qualitative
- 2.1.3. Qualitative Research Techniques
- 2.1.4. Phases of Qualitative Research

2.2. Observation
- 2.2.1. Introduction
- 2.2.2. Observation Categories
- 2.2.3. Types of Observation: Ethnographic, Participant and Non-participant
- 2.2.4. What, How and When to Observe
- 2.2.5. Ethical Considerations of Observation
- 2.2.6. Content Analysis

2.3. Interview Techniques
- 2.3.1. Introduction
- 2.3.2. Interview Concept
- 2.3.3. Interview Characteristics
- 2.3.4. The Purpose of the Interview
- 2.3.5. Types of Interviews
- 2.3.6. Advantages and Disadvantages of the Interview

2.4. Discussion Group and Focus Group Techniques
- 2.4.1. Introduction
- 2.4.2. Discussion Groups
- 2.4.3. Objectives that Can Be Considered: Advantages and Disadvantages
- 2.4.4. Issues for Discussion

2.5. SWOT and Delphi Technique
- 2.5.1. Introduction
- 2.5.2. Characteristics of Both Techniques
- 2.5.3. SWOT Technique
- 2.5.4. The Delphi Technique
  - 2.5.4.1. Preliminary Tasks Before Starting a Delphi

2.6. Life History Method
- 2.6.1. Introduction
- 2.6.2. Life History
- 2.6.3. Method Characteristics
- 2.6.4. Types
- 2.6.5. Phases

2.7. The Field Diary Method
- 2.7.1. Introduction
- 2.7.2. Concept of Field Diary
- 2.7.3. Field Diary Characteristics
- 2.7.4. Structure of the Field Diary

2.8. Discourse and Image Analysis Technique
- 2.8.1. Introduction
- 2.8.2. Features
- 2.8.3. Discourse Analysis Concept
- 2.8.4. Discourse Analysis Types
- 2.8.5. Levels of Discourse
- 2.8.6. Image Analysis

2.9. The Case Study Method
- 2.9.1. Introduction
- 2.9.2. Concept of Case Studies
- 2.9.3. Types of Cases Study
- 2.9.4. Design of the Cases Study

2.10. Classification and Analysis of Qualitative Data
- 2.10.1. Introduction
- 2.10.2. Categorization of Data
- 2.10.3. Data Coding
- 2.10.4. Theorizing Data
- 2.10.5. Data Triangulation
- 2.10.6. Exposure of Data
- 2.10.7. Writing Analytical Reflections. *Memoing*

## **Module 3.** Data Collection Techniques and Instruments and Measurement

3.1. Measurement in Research
- 3.1.1. Introduction
- 3.1.2. What do we Want to Measure?
- 3.1.3. Subject Measurement Process
- 3.1.4. Psychometry

3.2. Collection of Information with Quantitative Techniques: Observation and Survey
- 3.2.1. Introduction
- 3.2.2. Observation
  - 3.2.2.1. Theoretical Framework and Categories of Observation
- 3.2.3. The Survey
  - 3.2.3.1. Material for Conducting a Survey
  - 3.2.3.2. Survey Research Design

3.3. Collection of Information with Quantitative Techniques: the tests
- 3.3.1. Introduction
- 3.3.2. Test Concept
- 3.3.3. Item Generation Process
- 3.3.4. Testing by Area: Performance; Intelligence and Aptitude; Personality, Attitudes and Interests

3.4. Collection of Information with Quantitative Techniques: Scaling Methods
- 3.4.1. Introduction
- 3.4.2. Concept of Attitude Scales
- 3.4.3. Thurstone Method
  - 3.4.3.1. Method of Paired Comparisons
- 3.4.4. Likert Scale

3.4.5. Guttman Scale
3.5. Test Construction Process
3.5.1. Introduction
3.5.2. Item Scaling Process
3.5.2.1. Item Generation Process
3.5.2.2. Information Gathering Process
3.5.2.3. Scaling Process in the Strict Sense
3.5.3. Scale Evaluation Process
3.5.3.1. Item Analysis
3.5.3.2. Scale Dimension
3.5.3.3. Scale Reliability
3.5.3.4. Scale Validity
3.5.4. Subjects' Scores on the Scale
3.6. Analysis of Test Items
3.6.1. Introduction
3.6.2. Classical Test Theory (Spearman, 1904)
3.6.3. Test Reliability
3.6.4. The Concept of Validity
3.6.5. Evidence of Validity
3.7. Reliability of the Instrument
3.7.1. Introduction
3.7.2. Definition of Reliability
3.7.3. Reliability by Test-Retest or Repeatability Method
3.7.4. Reliability by the Alternate or Parallel Shape Method
3.7.5. Reliability Through Internal Consistency Coefficients
3.7.5.1. Kunder-Richardson Coefficient
3.7.5.2. Cronbach's Alpha Coefficient
3.8. Validity of the Instrument
3.8.1. Introduction
3.8.2. Definition of Validity
3.8.3. Validity of the Instruments
3.8.3.1. Immediate Validity
3.8.3.2. Content Validity
3.8.3.3. Construct Validity
3.8.3.4. Contrast Validity
3.8.4. Validity Strategies
3.9. Item Analysis
3.9.1. Introduction
3.9.2. Item Analysis
3.9.3. Difficulty and Validity Indexes
3.9.4. Correction of Random Effects
3.10. Interpretation of Test Scores
3.10.1. Introduction
3.10.2. Interpretation of Scores
3.10.3. Normative Test Scales
3.10.4. Typical Derived Baremos
3.10.5. Interpretations Referring to the Criterion

*A complete program that will take you through the knowledge you need to compete among the best."*

04

# Methodology

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

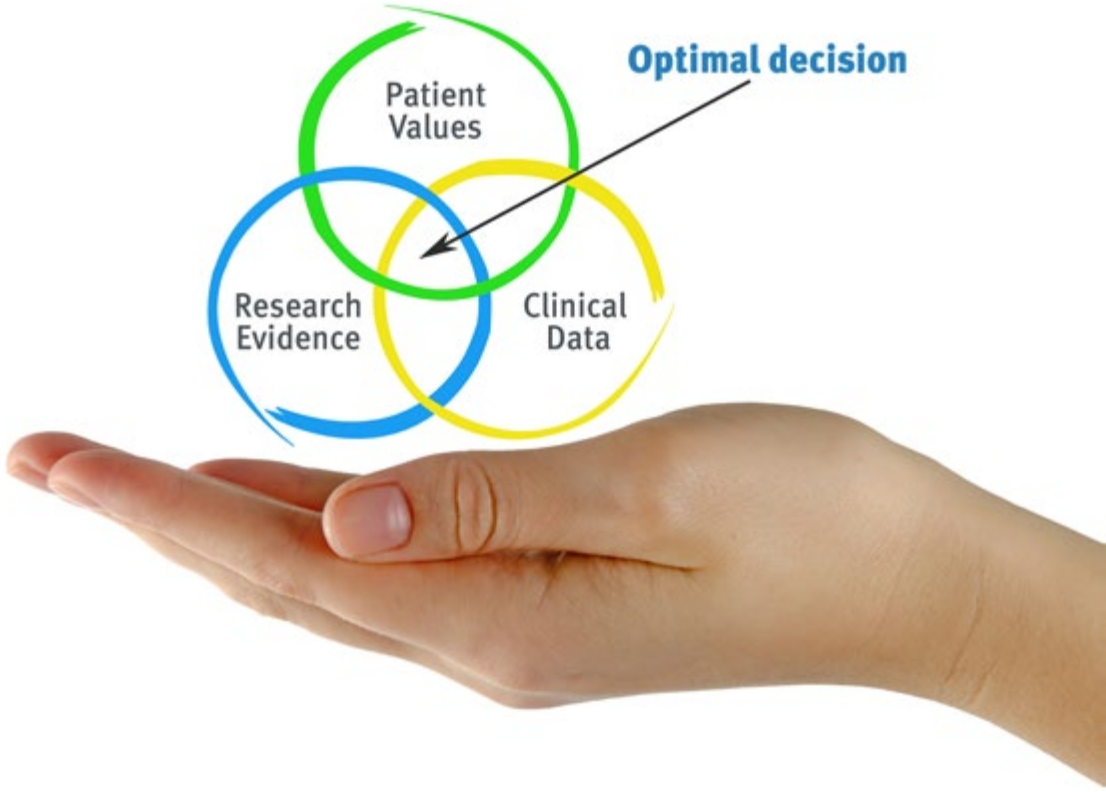
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the ***New England Journal of Medicine*** have considered it to be one of the most effective.

*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.*

*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:**

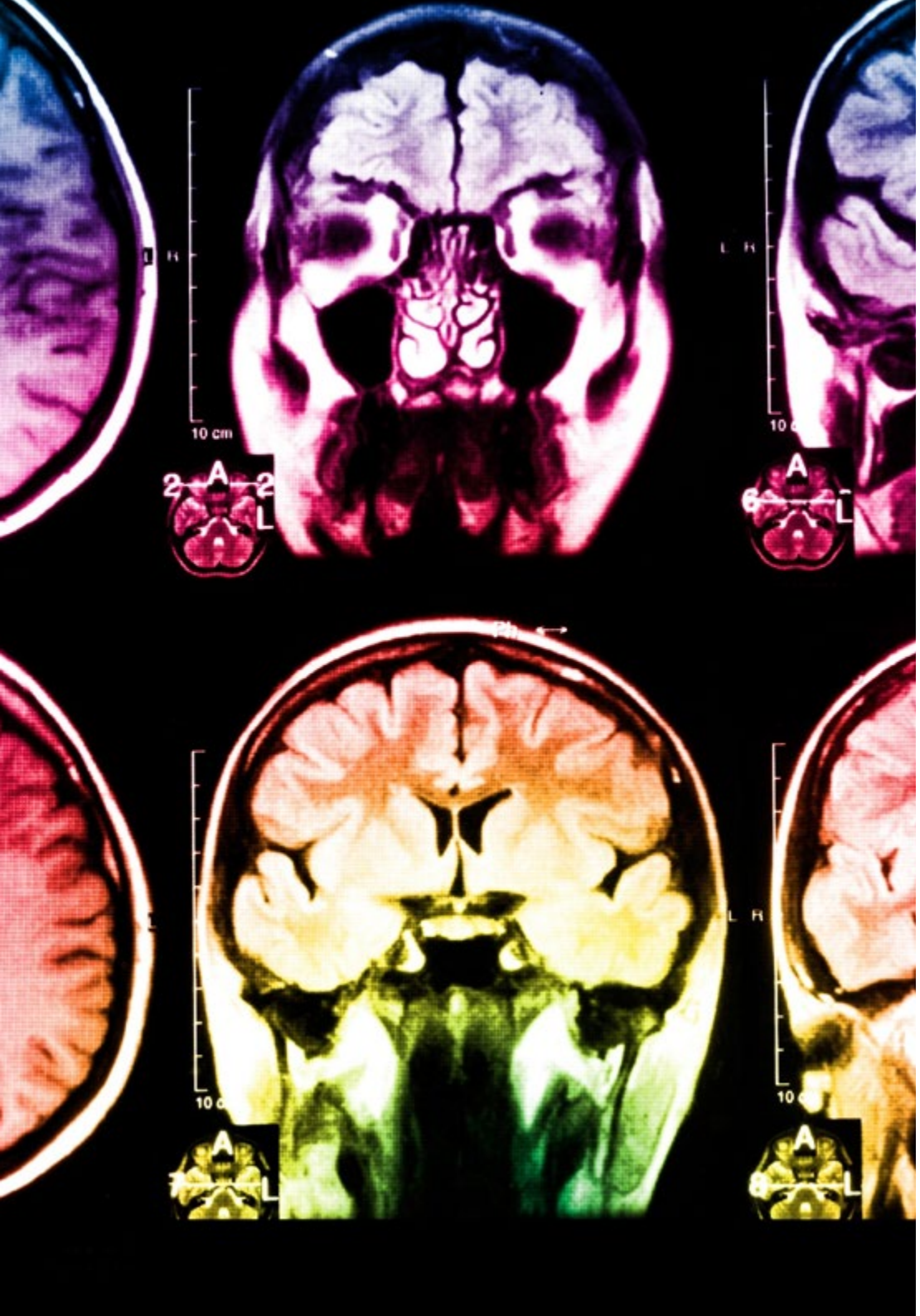
1. Educators who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
2. The learning process is solidly focused on practical skills that allow educators to better integrate the knowledge into daily practice.
3. 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

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.*



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 prepared 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 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.

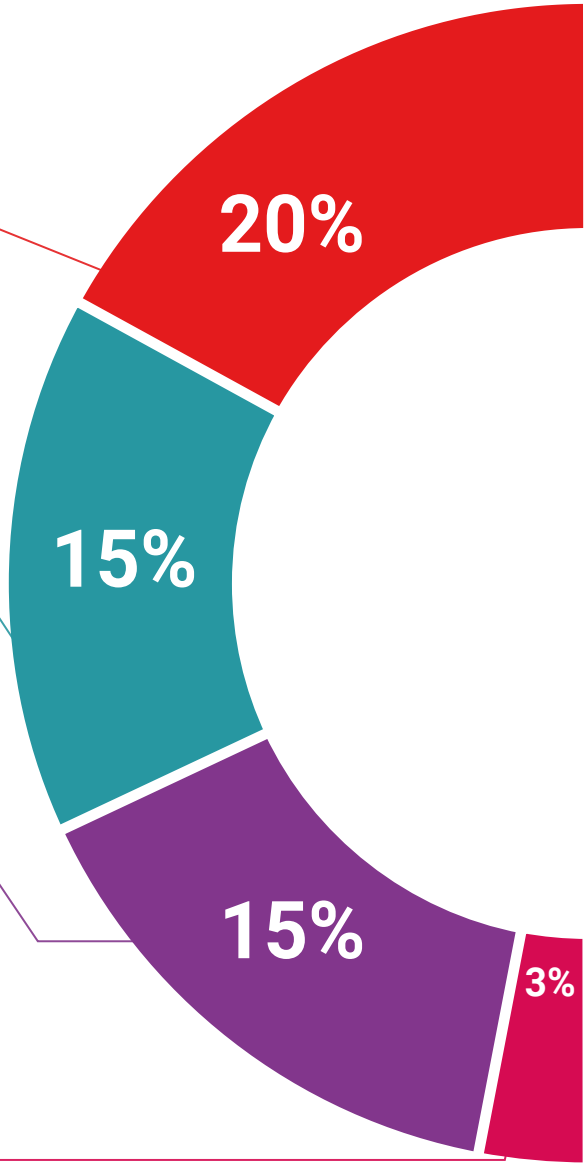
### Interactive Summaries

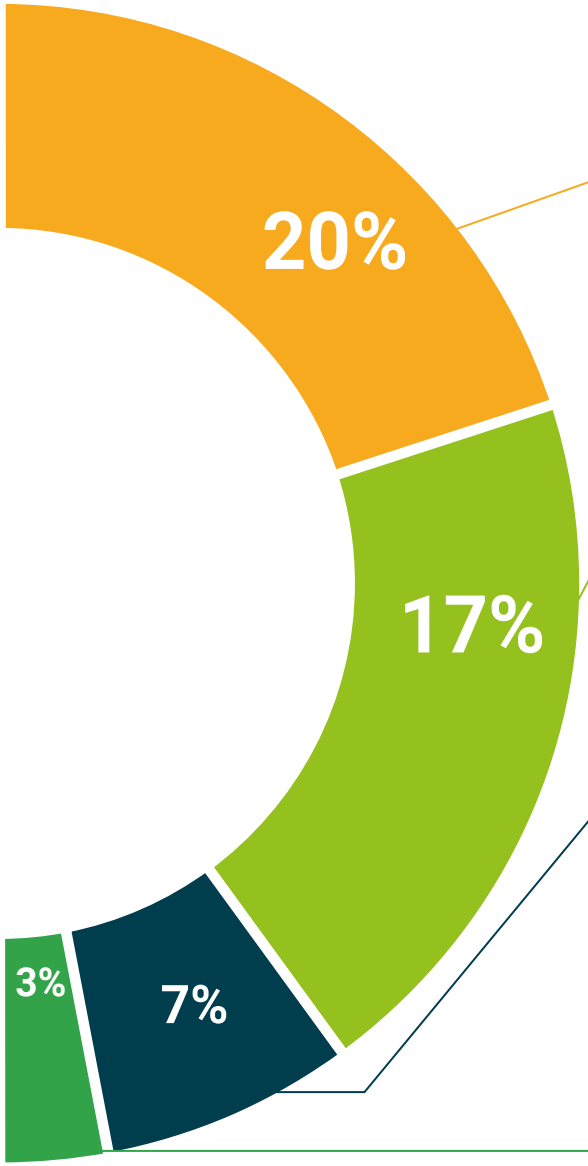
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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.






### 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 assess and re-assess 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.

05

# Certificate

The Postgraduate Diploma in Techniques in Data Collection Instruments in Educational Research guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Technological University.

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

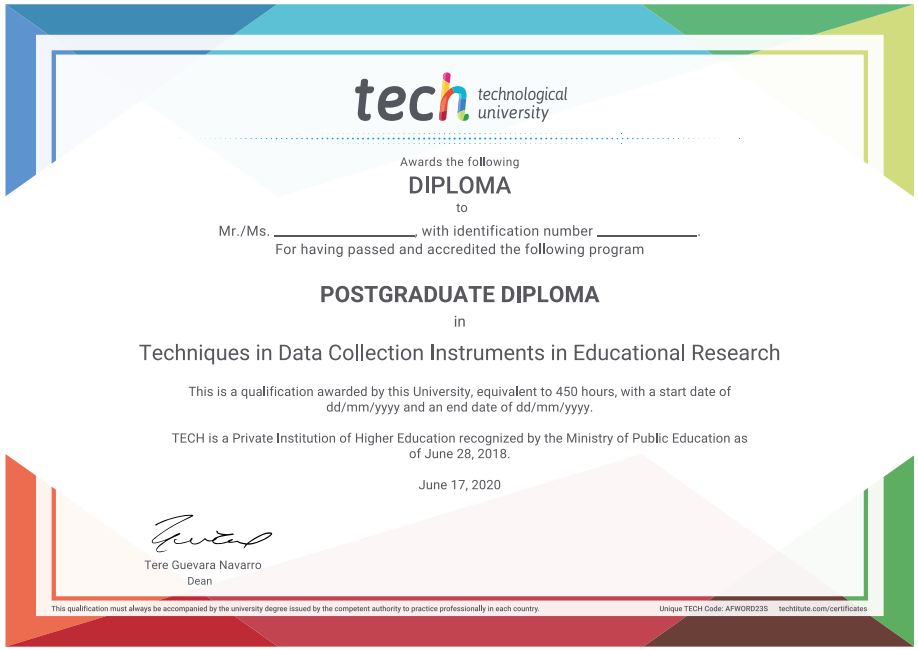
This **Postgraduate Diploma in Techniques in Data Collection Instruments in Educational Research** contains the most complete and up-to-date educational program on the market.

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

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

Title: **Postgraduate Diploma in Techniques in Data Collection Instruments in Educational Research**

Official Nº of Hours: **450 hours.**


tech technological university

Awards the following

DIPLOMA

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE DIPLOMA

in

Techniques in Data Collection Instruments in Educational Research

This is a qualification awarded by this University, equivalent to 450 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro

Dean

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

*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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