

EDUCATIONAL RESEARCH METHODOLOGY - STATISTICS

1. GENERAL INFORMATION

SCHOOL	SCHOOL OF HUMANITIES AND SOCIAL SCIENCES		
DEPARTMENT	PEDAGOGICAL DEPARTMENT OF PRIMARY EDUCATION		
LEVEL OF STUDY	POST-GRADUATE		
COURSE CODE	AY3	SEMESTER	2
COURSE TITLE	Educational Research Methodology - Statistics		
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS	
<i>Total</i>	3	7,5	
COURSE TYPE:	Mandatory		
PREREQUISITE COURSES:	NO		
LANGUAGE OF INSTRUCTION AND EVALUATION	Greek		
COURSE OFFERED TO ERASMUS STUDENTS	NO		
COURSE WEBSITE (URL)	https://eclass.uth.gr/		

2. LEARNING OUTCOMES

Learning Outcomes
<p>Familiarization with the methods and processes of knowledge production in the scientific field of Education. Specifically, students should:</p> <ul style="list-style-type: none">- Recognize the importance of educational research for educators.- Understand different research approaches.- Be able to develop a research problem based on relevant literature.- Formulate the purpose and research questions accurately.- Be familiar with basic designs of quantitative and qualitative research.- Know the methods of participant selection in quantitative research (sampling techniques) and qualitative research (purposeful sampling criteria).- Understand different methods of data collection in quantitative and qualitative research.- Understand the basic methods of descriptive and inferential statistical analysis and the criteria for selecting different statistical significance tests.

- Be familiar with the use of SPSS software for processing and statistical analysis of quantitative data.
- Understand the principles of thematic analysis of qualitative data.

General Competencies

To become critical readers of empirical research in education, to be able to use research to improve the organization and effectiveness of schools, and to be activated towards the involvement of schools with research.

3. COURSE CONTENT

Educational research and educational practice: the two cultures and the need for osmosis.

Alternative 'paradigms' in research methodology: post-positivism, constructivism, pragmatism, transformative paradigm.

Epistemological and methodological differences between quantitative and qualitative approaches.

Research design: Research problem, purpose definition, research questions, and hypotheses.

Data collection methods: questionnaires, measurement tools and tests, interviews, focus groups, observation procedures.

Sampling methods: probabilistic and non-probabilistic sampling schemes.

Differentiation of the concepts of reliability and validity in quantitative and qualitative approaches.

Research designs in quantitative approach: surveys and correlational studies, experimental designs.

Types of qualitative research: phenomenology, ethnography, grounded theory.

Other types of research: mixed models, case studies, action research.

Analysis of quantitative data: descriptive and inferential statistics.

Methods of descriptive statistics.

Basic concepts and methods in inferential statistics.

Procedures for analyzing qualitative data.

Mixed Methods Research.

Statistics seminar using SPSS package: Creating files and managing data in SPSS.

Descriptive statistics: charts and statistical measures for describing distributions.

Methods of inferential statistics: estimation and hypothesis testing for one or two samples, analysis of variance, correlation, regression.

4. TEACHING and LEARNING METHODS - EVALUATION

INSTRUCTION METHOD	Face-to-face and distance learning.	
ICT USE	Slide presentations, use of the asynchronous learning platform for posting course materials, student assignments, and communication between instructors and students. Technologies are also used a) for searching information from electronic bibliographic sources and b) for utilizing specialized software for data processing and statistical analysis.	
ORGANIZATION OF TEACHING AND ACTIVITIES	Activity	Semester Workload (hours).
	Lectures	36
	Assignment preparation	36
	Laboratory exercises	25
	Study during the semester (estimate)	90
	Final written examination	3
	Course total	190
STUDENT EVALUATION	<p>The evaluation of students includes:</p> <p>Preparation of 2 (two) assignments in Methodology and a written examination in Statistical analysis at the end of the semester</p>	

5. RECOMMENDED BIBLIOGRAPHY

Cohen Louis, Manion Lawrence, Morrison Keith (2007). Methodology of Educational Research. Athens: Metaichmio.

Creswell John (2007). Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research. Allyn & Bacon.

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Sarafidou, Yasemi-Olga (2011). Integration of Quantitative and Qualitative Approaches: Empirical Research. Athens: Gutenberg. (In Greek)

Filias Vasilis (ed.) (1998). Introduction to the Methodology and Techniques of Social Research. Athens: Gutenberg. (In Greek)