INSTITUTO POLITÉCNICO DE BRAGANÇA

Course Unit	Option 2 - ICT in Education Research			Field of study	-	
Master in	Pre-school and Primary School Teacher Education			School	School of Education	
Academic Year	2022/2023	Year of study	2	Level	2-2	ECTS credits 4.0
Type	Semestral	Semester	1	Code	5050-765-2102-04-22	

Workload (hours)	108	Contact hours	T -	TP 28	PL -	TC -	S -	E -	OT 8	O -

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s)	Vítor Manuel Barrigão Gonçalves

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:
1. Develop knowledge, skills and research attitudes that facilitate the analysis and development of scientific work.
2. Identify, observe and understand problems in an educational context, and to present and implement appropriate proposals for resolving them.
3. Use a bibliography manager (Endnote, Mendeley or Zotero) to produce a bibliography database, ensuring the use of APA standards in the production of written texts.
4. Explain the basic concepts and applicability of descriptive and inferential statistics with the support of SPSS, PSPP, MicrOsiris or similar.
5. Identify the nature of the data, select and apply the statistical treatment best suited to achieving the research objectives.
6. Deal with non-numerical and unstructured data in qualitative analysis.
7. Use MaxQDA, WebQDA, NVivo or similar qualitative analysis software.
8. To deepen knowledge on research methodology, data acquisition, processing and analysis, as well as scientific writing and publication and associated technologies.

Prerequisites

Before the course unit the learner is expected to be able to:
Use digital technologies from the end-user's perspective.

Course contents

1- Research and scientific knowledge; 2- Research methodology and types of methods; 3- Techniques for collecting and processing information; 4- Software for quantitative and qualitative data analysis; 5- Scientific writing.

Course contents (extended version)

1. Research and scientific knowledge
    - Diversity of theoretical paradigms and theories in research processes
    - Ethical and legal issues and neutrality of the researcher
    - The methodological framework and the contribution of ICTs
2. Research methodology and types of methods
    - Quantitative, qualitative and mixed research methods
    - The triangulation of methods
3. Techniques for collecting and processing information
    - Nature of the field to be studied (Universe and Sample or Case)
    - Procedures and instruments for data collection (Microsoft and Google Forms)
4. Software for quantitative and qualitative data analysis
    - Descriptive and inferential statistics supported by SPSS, PSPP, MicrOsiris or similar
    - Qualitative analysis WebQDA, NVivo, R or similar
    - Free software for quantitative and qualitative data analysis
5. Scientific writing
    - Formal procedures for the preparation of reports and scientific articles.
    - Structure of a scientific article or paper
    - Care in the submission of a scientific article.

Recommended reading

1. Almeida, L., & Freire, T. (2017). Metodologia da investigação em psicologia da educação (5ª ed. revista). Braga: Psiquilibrios.
2. Costa, A. P., & Amado, J. (2018). Análise de Conteúdo suportada por software (1a). Oliveira de Azeméis – Aveiro – PORTUGAL: Ludomedia.
3. Laureano, R., & Botelho, M. C. (2017). SPSS Statistics: O Meu Manual de Consulta Rápida (3.ª ed.). Lisboa: Edições Silabo.

Teaching and learning methods

After learning about and discussing different methodological approaches to research, we will reflect as deeply as possible on their implications for the research we intend to conduct. Various technological tools that support research (Mendeley, SPSS and MAXQDA or similar) will be used. Finally, the preparation of reports and scientific articles will be addressed.

Assessment methods

1. Project-based evaluation - (Regular, Student Worker) (Final, Supplementary, Special)
    - Practical Work - 50% (Individual practical work)
    - Practical Work - 50% (Group Work (Reflection))
2. Assessment by Exam - (Regular, Student Worker) (Final, Supplementary, Special)

Language of instruction

Portuguese, with additional English support for foreign students.

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Electronic validation

Vítor Manuel Barrigão Gonçalves	Manuel Florindo Alves Meirinhos	Ilda da Purificação Freire Ribeiro	Carlos Manuel Costa Teixeira
06-02-2023	06-02-2023	06-02-2023	07-02-2023

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