

BEDU306 Research Methods I: Quantitative Strategies

ECTS Value: 2 ECTS

Overall Objectives and Outcomes

Research, which involves the gathering of data from carefully identified sources, is useful; particularly when the ultimate aim of every research is to acquire knowledge that will contribute to the area of discipline of the researcher. Hence, the prospect for students to do a research project is growing in many areas of study, one of which is education. Conducting a research project has become synonymous with undergraduate programmes.

This course introduces students to the area of research in education. It intends to help students understand the nature and use of educational inquiry with reference to the particular concerns of educational research in Malta. Such a module is also crucial as it offers the students to learn new skills: such as developing a critique disposition, learning on their own initiative, understanding good time management and discovering innovative knowledge that no lecture or book can provide.

The course introduces students to ethical aspects of research as well as the orientation of quantitative research. It will also give the students detailed knowledge of what is involved in quantitative methods of research. Finally, the course is informed by a rationale that highlights the epistemic responsibility of the student researcher.

By the end of this module, the learner will be able to:

Competences

- a. comprehend the nature and use of educational inquiry;
- b. search for the relevant papers, books and journals using electronic searches;
- c. appraise of a text in a critical and focused manner;
- d. conducting a review of the available literature and developing a critique disposition;
- e. formulate a research question/s;
- f. design questionnaires;
- g. code and manage data;
- h. conduct data analysis (summary/descriptive statistics; investigating relationships and differences);
- i. plan and organise a research project in terms of time management, reading material;
- j. reference and cite appropriately;
- k. establish good field relations with supervisor, participants, leaders of institutions within which the research is conducted, gatekeepers and other researchers;
- l. avoid plagiarising;
- m. be sensitive to the general ethical issues in research.

Knowledge

Research

- a. identify what is the scientific method and empirical research;
- b. adopt an appropriate research strategy – quantitative, qualitative and mixed method, notably their strengths and weaknesses;
- c. develop an awareness of the necessity for good quality knowledge generated through research;
- d. determine the ethical responsibilities of the researcher and knowledgeable of ethical issues as identified by Accredited Research Bodies.

Literature Review

- a. present a good literature, review chapter and adopt a critique stance;
- b. reference and cite research appropriately;
- c. avoid plagiarism.

Methodology

- a. consider the limitations and replication of generalisation;
- b. structure the research problem/question, hypothesis and null hypothesis;
- c. communicate the importance of reliability and validity in educational research;
- d. identify the main purposes of studies: exploratory, explanatory;
- e. explain aspects of descriptive research (longitudinal and cross-sectional studies and correlational research, particularly Pearson's correlation coefficient);
- f. discuss aspects of data sampling (sampling error, types of probability sample, sample size, types of non-probability sampling);
- g. identify items on the self-completion questionnaires and response styles.

Data Analysis

- a. classify and analyse data, and interpreting results.

Skills

- a. adopt a critique disposition;
- b. identify and avoid ambiguous, double barrelled and leading questions when constructing questionnaires;
- c. develop a coherent link between the research question/s, the literature, research design and discussion of the findings;
- d. interpret the results obtained from the data;
- e. structure the research project in terms of time, resources, reading material, ideas and concepts;
- f. compile a matrix of required revisions on the dissertation.

Assessment Methods

This module will be assessed through: Presentation and Assignment

Suggested Readings

Core Reading List:

1. Cohen, L., Manion, L. and Morrison, K., (2011). *Research Methods in Education*. (7th edition). Routledge.
2. Thomas, G. (2017). *How to do your Research Project*. (3rd edition). Sage Publications Ltd.

Supplementary Reading List:

1. Bryman, A., (2004). *Social Research Methods*. (2nd ed.) Oxford: Oxford University Press
2. Byrne, D., (2002). *Interpreting Quantitative Data*. London: SAGE
3. Fink, A., (2003). *The Survey Kit*. (2nd edition). London: SAGE.
4. Neuman, W. L., (2003). *Social Research Methods – Quantitative and Qualitative Approaches*. (5th edition). USA: Pearson Education, Inc.
5. Opie, C., (2010). *Doing Educational Research*. London: SAGE
6. Oppenheim, A.N., (1999). *Questionnaire Design, Interviewing and Attitude Measurement*. London: Pinter
7. Punch, K.F., (2003). *Developing Effective Research Proposals*. London: SAGE
8. Robson, C., (2009). *How to do a Research Project – A Guide for Undergraduate Students*. Oxford: Blackwell
9. Tashakkori, A. & Teddie, C., (1998). *Mixed Methodology – Combining Qualitative and Quantitative Approaches*. London: SAGE.