

MEDU203 Research Methods I: Quantitative Research Strategies

ECTS Value: 2 ECTS

Overall Objectives and Outcomes

Quantitative research methods emphasize objective measurements and the statistical, mathematical or numerical analysis of data collected through polls, questionnaires and/or surveys, or by manipulating pre-existing statistical data using computational techniques. Throughout this module participants will be exposed to ways how quantitative research methods could be employed as well as how to go about quantitative research data analysis. The topics to be covered during this module include:

- a) The main characteristics of quantitative research methods;
- b) Ethical issues and approaches in planning a questionnaire;
- c) Practical considerations in questionnaire design;
- d) Piloting and Administering a questionnaire;
- e) Processing and analysing a questionnaire data.
- f) Using questionnaires to sustain action research methods

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

Competences:

- a. analyse the main characteristics of quantitative data;
- b. analyse and report the results of a study using quantitative methods;
- c. design a quantitative research study;
- d. report on study population and sampling, data collection and data analysis;
- e. interpret results, describe trends, compare groups or report relationships among variables to sustain action research;
- f. discuss implications and study limitations;
- g. analyse and discuss ethical, validity and reliability issues;
- h. develop a questionnaire for a research study following all questionnaire construction steps.

Knowledge:

- a. analyse and discuss the different types of questionnaires and their administration;
- b. plan the design of a questionnaire;
- c. analyse and report on descriptive, inferential and explanatory data to support findings from other research methods used during action research;
- d. identify, discuss and target ethical issues mainly when asking or researching sensitive issues;
- e. discuss and critically analyse data gathered from questionnaires;
- f. make generalizations about and observe patterns of response in the targets of focus.

Skills:

- a. design a quantitative questionnaire using the correct wording;
- b. gather data on a one-shot basis and represent a wide target population;
- c. gather data from multiple choice, closed questions, test scores or observation schedules;
- d. pilot and review a questionnaire before its administration;
- e. administer a questionnaire among the target population;
- f. critically analyse gathered data to report on main findings to sustain action research;
- g. support correlations, hypothesis and generalizations whilst reporting on questionnaire findings deriving from data.

Assessment Methods

This module will be assessed through: Research Proposal

Suggested Readings

Core Reading List:

- a. Burgess, R.G. (Ed.) (1989). The ethics of educational research. Lewes: Falmer Press.
- b. Champion, D., Stowell, F. (2003) Validating action research field studies: PEARL. Systemic Practice and Action Research 16(1): 21–36. Google Scholar, Crossref, ISI
- c. Chandler, D., Torbert, B. (2003) Transforming inquiry and action interweaving 27 flavors of action research. Action Research 1(2): 133–152. Google Scholar, SAGE Journals
- d. Daniel Muijs (2004). Doing Quantitative research in education. Routledge.
- e. Katar, Singh (2007). Quantitative Social Research Methods. Sage.
- f. Louis Cohen, Lawrence Manion and Keith Morrison (2015). Research Methods in Education, 7th Edition. Routledge.
- g. Mark Balnaves & Peter Caputi (2001). Introduction to Quantitative Research Methods: An Investigative Approach. Sage.