

Computing Research Project

RESEARCH METHOD (PART II)



Introduction(1)

- It may be helpful to consider the main features of certain well-established and well-reported styles of research.
- No approach prescribes nor automatically rejects any particular method

Introduction(2)

- Quantitative researchers collect facts and study the relationship of one set of facts to another. They use 'numerical data and, typically . . . structured and predetermined research questions, conceptual frameworks and designs'
- Researchers adopting a qualitative perspective are more concerned to understand individuals' perceptions of the world.
- Classifying an approach as quantitative or qualitative, ethnographic, survey, action research or whatever, does not mean that once an approach has been selected, the researcher may not move from the methods normally associated with that style

Some other approaches will be discussed

- Action research
- Case study
- Survey
- The experimental style
- Ethnography and the ethnographic

- ‘specific knowledge is required for a specific problem in a specific situation, or when a new approach is to be grafted on to an existing system’ (Cohen and Manion 1994a: 194).
- Lomax (2007: 158, 169) provides a series of useful questions for action researchers
 - Can I improve my practice so that it is more effective?
 - Can I improve my understanding of this practice so as to make it more just?
 - Can I use my knowledge and influence to improve the situation?

Action research(2)

- Before the research begins, everyone involved must know why the investigation is to take place, who will see the final report, and who will have responsibility for implementing any recommended changes

- A case study is ‘an in-depth exploration of one situation’ (Cornford and Smithson, 2006: 71).
- It involves the investigation of a particular situation, problem, company or group of companies
- This investigation can be performed directly, for example, by interviews, observation, etc.;

Case study(2)

- Obtaining the data from two or three different sources to confirm the truth in what you are told
- A major concern is that generalization is not always possible

- This is usually undertaken through the use of questionnaires or interviews
- It allows 'the collection of a standardised data from a sizable population in a highly economical way'
- As part of a survey you might have to identify samples, sample sizes, design questionnaires and define interviews as appropriate
- Surveys can provide answers to the questions 'What?', 'Where?', 'When?' and 'How?', but it is not so easy to find out 'Why?'.

The experimental style

- Involves an investigation of causal relationships using tests controlled by yourself
- Quite often quasi-experimental research will have to be performed due to problems of insufficient access to samples, ethical issues and so on
- According to Saunders et al. (2012: 174–175), experiments typically involve:
 - defining a theoretical hypothesis;
 - selecting samples from known populations
 - allocating samples to different experimental conditions
 - introducing planned changes to one or more variables
 - measuring a small number of variables

Ethnography and the ethnographic style of research

The study of people in naturally occurring settings or 'fields' by methods of data collection which capture their social **meanings** and ordinary activities, involving the researcher participating directly in the setting, if not also the activities, in order to collect data in a systematic manner but without meaning being imposed on them externally.

(Brewer 2000: 6)

Ethnography and the ethnographic style of research(2)

- Participant observation enables researchers, as far as is possible, to share the same experiences as the subjects, to understand better why they act in the way they do
- However, it is time-consuming and so is often outside the scope of researchers working on 100-hour projects
- If the researcher is studying one group in depth over a period of time, who is to say that group is typical of other groups that may have the same title?

- Judith Bell-2010 Doing your research project 5th Edition
- Christian W. Dawson Project in Computing And Information System 3rd Edition