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## Handbook To Support Designing Practitioner Research Using Work-Based Learning Levels 4 To 7

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# Introduction to the Designing Practitioner Research

**This module is about you as a practitioner (worker) designing a research project to be carried out as a part of a programme of work-based learning supported by the University of Hull. This module is designed to help you to think about research and how it relates to your professional development and your specific work context.**

**This Handbook describes thirteen Learning Tasks that you should complete in sequence in order to give yourself the best opportunity to successfully complete this module. If you are undertaking Work-Based Learning as part of an apprenticeship it is likely that the Learning tasks will generate evidence of your learning and development relevant to specific apprenticeship standards.**

## Learning outcomes and assessment

To complete the module successfully your work should demonstrate the learning outcomes for the module. You can find the learning outcomes for the Designing Practitioner Research Module at academic levels 4, 5, 6 and 7 at Appendix 1 of this handbook. Your module leader will make clear which Learning Outcomes are applicable to your level of study.

Assessment is an integral part of the learning process and this module is assessed through the submission of coursework. Assessment is either “formative” or “summative”. Formative assessment is when you receive feedback whilst you are completing the module and is intended to show you where you need to improve as well as show you what you are doing well. Summative assessment is the final formal assessment of your learning achievement against the expected learning outcomes of the module.

## Assessment Requirements

Formative Assessment is given on a draft Research Proposal.

Summative assessment for the module is based upon the final version of your Research Proposal

## Your research proposal

There is no right or wrong way to present your research proposal. However, we have found that the format usually enables the reader to know: what the problem is that you are researching, and how you are going to research it. It is also very important to justify the way you have decided to do the research. A suggested format is below.

## The 12-point template for your research project proposal

**1. Working title** of your research project.

**2. Introduction:** This provides the background to your research proposal and should include details of the context (for example your organisation/department and the wider business/operational context) for the research project.

**3. Aim:** What is the main aim of your research project? Explain why the subject of your research is significant in the context of your work and identify the target audience(s) for your research report/product.

**4. Research Questions:** Identify the main research questions which you as practitioner-researcher will have to find the answers to in order to achieve the aim of your research project (as described in 3 above).

**5. Research Approach:** Identify and provide a rationale for your research approach (which must be referenced to appropriate research literature) in relation to your position as worker-researcher, the sources of information available to you, your project aim and your research questions. If applicable you should also identify and discuss any other research approaches which you seriously considered and explain why you decided not to use them.

**6. Data Collection and Analysis:** Identify and provide a rationale for your data collection techniques (which must be referenced to appropriate research literature), make specific how you intend to analyse the data you collect and how the data will help you address each of your research questions (as described in 4 above).

**7. Research feasibility:** Provide an action plan for your research project to demonstrate how you will manage it in the time and with the resources available.

**8. Research Project report/product:** Describe how you believe the research project report/product will meet the needs of your target audience(s).

**9. Reflect on your role as worker-researcher:** Critically reflect on your role as worker-researcher including your work role and relevant expertise. This will require you to reflect on the context in which you work in order to evaluate the opportunities and constraints that may impact not just on your choice of research project but also potentially on the design, conduct and outcomes of your research.

**10. Ethical Considerations.** Identify any ethical issues which are raised by carrying out the research described in your proposal (items 1 to 9 above). For each ethical issue identify how you propose to address it and mitigate risk to individual participants, the work organisation/professional context and yourself.

**11. Critical evaluation.** Critically Review your research proposal as described in 1 to 10 above. Identify and evaluate the strengths, weaknesses, opportunities and threats facing your research?

**12. References:** Use the referencing style identified by your School to identify the sources of all references you have cited in your research proposal.

# Introduction to research principles for practitioner researchers

Research is simply understood as a planned and systematic activity which provides reliable ways of finding out about and deepening our understanding of a particular issue. Research can take many forms (eg market research to inform the development of a new product or lab based research to trial a new drug).

Practitioner research is a form of applied research that is undertaken by professionals/practitioners within the context of their work and usually has direct application to work. The position of a practitioner-researcher (also known as an insider-researcher) means that they will be influenced by both their own personal and professional beliefs, those of people the practitioner-researcher is interacting with, and those informing the workplace culture.

Given this level of personal involvement, the practitioner- researcher needs to be capable of reflecting on their values and actions during the research process. This ability to critically reflect on their own values, actions and position in relation to the research is a way of recognising and acknowledging the practitioner researchers' involvement in the research process. Reflexivity is a term used to signify that the researcher needs to try and be 'as objective as possible' about the inevitably subjective practice of practitioner research. In this sense the issue of bias for the practitioner- researcher becomes less a question of eliminating it, but rather acknowledging the part it plays in the research process.

## Keeping a Research Learning Diary

An important way to guide and record your reflection as a practitioner-researcher is by keeping a learning diary specifically relating to your research and the issues you have encountered as a practitioner researcher. An example of a format for a research diary is given below as Figure 1. You should use the research diary to identify and ask yourself challenging questions about your developing understanding of research and specific issues related to the development of your research proposal.

### Learning Task 1

#### Watch the general introduction to research:

'What is Research' [https://www.youtube.com/watch?v=Og4BGyZr\\_Nk](https://www.youtube.com/watch?v=Og4BGyZr_Nk)

Now start your research learning diary by using the format suggested in Figure 1 to identify and reflect upon what you understand by the word "research".

**Figure 1**  
**Format for an entry in a Research Learning Diary**

The figure shows a template for a Research Learning Diary entry, consisting of six numbered sections:

1. Name
2. Nature of learning event (eg reading, conversation, observation), who/what was involved.
3. Questions raised:
4. Outcomes of any decisions/actions taken:
5. Key learning points:
6. Impact of key learning points on your understanding of research or the design of your research proposal?

As a practitioner-researcher you need to be mindful that:

1. Worker and practitioner-researcher roles may or may not be the same. It may be necessary to clarify the distinct role of the researcher throughout the research process in order to avoid/manage any potential conflict of role.
2. It is important to be aware of your own role(s) and position(s) within your work context. You will need to consider the extent of your authority and autonomy to carry out the research you propose. You will need to consider whether your research might be seen as threatening to others in your work context and how this might influence or constrain the design and conduct of your research.
3. It is very likely that you will already have existing knowledge and understanding relevant to the context of your research. An important aspect of your research design and conduct is how you can best identify and capitalise upon this "pre-understanding".
4. Others in your work context are likely to be affected by the outcome of your research. You need to consider how far you need to identify these people as stakeholders and even possibly collaborators in your research.
5. Your research proposal will lead directly to a work-based project which is intended to be of benefit to your work/professional context. This means that you need to consider the audience for your research report/research output so that what you produce has credibility and potential value to your work context.

### Learning Task 2

Read chapter 1 " Key concepts for the insider-researcher" pp 1-7 in Costley C, Elliott G and Gibbs P (2010) Doing Work Based Research, London: Sage, and points one to five above. Make your own notes on what you think are the potential strengths and weaknesses you might have as a practitioner-researcher. Note this will help you to write section 9 of your research proposal.



# The Research aim and research questions

The choice of research paradigm, research approaches and data collection techniques is driven by the aim of the research and the research questions that the researcher has to address in order to achieve the aim of the research.

A research aim is established by considering the following range of questions:

1. What is the general area of the proposed research?
2. What is to be investigated?
3. Who or what is the focus?
4. Where is the investigation to be undertaken?
5. To what period of time does your research apply?
6. Why is the research significant and to whom?

Only when the researcher has identified the research questions is it appropriate to consider how the research will be undertaken. First identify the general research approach (often referred to as methodology). Once you have decided on the general approach then determine the specific data collection techniques (sometimes referred to as data collection instruments) that will be used to collect data needed to address the research questions you have identified.

## Learning Task 3

Identify the aim of your research and the research questions that you as the practitioner researcher will have to answer in order to achieve that research aim.

## Research Feasibility

A key question for the researcher to answer is whether the proposed research is feasible? This will involve considering:

1. the timescale for the research;
2. resources required;
3. access to information;
4. support available eg from colleagues, employer, sponsor;
5. researcher preunderstanding (knowledge/expertise) in the area to be investigated.

## Research Ethics

**Research ethics** is about exercising a duty of care for participants in the research and being clear about the nature of the agreement the researcher has entered into with their research participants. Ethical problems can arise if there is a conflict of interests. These may be between the demands of confidentiality, anonymity, versus those of legality or professionalism. When considering the overall moral and ethical implications of your research project you should take account of a range of issues. Not only are you working within your own point of view or ideology but also within particular discourses, often associated with particular professions, work situations and cultures.

## Learning Task 4

Read chapter 3 "Research ethics and insider-researchers" pp 25-35 in Costley C, Elliott G and Gibbs P (2010) *Doing Work Based Research*, London: Sage. Make your own notes on ethical issues that you think may be relevant to your research proposal. Note this will help you to write section 10 of your research proposal.

## Research paradigms

A research paradigm is an agreed system of thinking and behaviour within which research is constructed.

**Positivist Paradigm.** The empirical positivist paradigm associated with "scientific enquiry" is deeply rooted in our understanding of research; consider our emphasis on research as a systemic process subject to tests of validity and reliability. In this paradigm the researcher is a detached and objective observer of the object of study. Research concentrates upon description and explanation and is conducted systematically and logically using well defined studies which are governed by explicitly stated theories and hypotheses. Statistical techniques of processing data are often central to produce results which are capable of generalisation. This is the traditional research paradigm of the natural sciences and follows a deductive approach to data analysis and information, aiming to 'prove' theories through evidence. When a researcher wishes to find out whether two things are causally related they formulate a statement called a hypothesis. The research is then designed to examine this relationship. Hypotheses are most often used in research approaches that use a positivist or 'scientific' paradigm, such as experiments. The results from testing hypotheses can then be used to develop theory.

**Interpretive Paradigm.** In this paradigm the researcher is an actor involved in the partial creation (through assigning meaning and significance) of what is studied. Research concentrates on understanding and interpretation and is conducted with the recognition that the researcher will be influenced by preunderstanding. Reality is multi-layered, complex and hence there can be multiple interpretations and perspectives of single events.

Research in this paradigm tends to take an inductive approach to determining the meaning of data, and looks at perceptions, feelings and experiences of participants. The researcher states questions to be investigated in the research, rather than proving/disproving a theory. Not all research is based upon a hypothesis. Sometimes the researcher might not want to pre-judge what causes what and may prefer to investigate a range of possibilities about causal factors. Alternatively the researcher might wish to discover the range of views that people have about a specific topic and this would result in a research question.

These two paradigms can be held to represent two polarised and heavily critiqued views of reality. In addition to these two views of reality there is a third paradigm of critical theory which focuses on the relationship between knowledge and power. In the paradigm of "critical theory" knowledge and definitions of knowledge reflect different interest groups. From a "critical theory" perspective research paradigms can be seen as representing three cognitive interests:

1. Prediction and control (scientific paradigm).
2. Understanding and interpretation (interpretive paradigm)
3. Emancipation and freedom (critical theory paradigm).

The critical theory paradigm is particularly significant for work-based learning as it is focused on action informed by reflective practice.

An understanding of these three contesting and partially overlapping paradigms helps us position research carried out by a practitioner in the context



# Research Approaches

There are a wide variety of research approaches. This introduction will introduce some of the most commonly used in practitioner research:

- Action research
- Case study
- Experiment
- Survey

Suggested further reading for each approach is given in each section.

## Action Research

**The Action Research** approach uses research as a way to deal with practical issues occurring in the everyday social world. The emphasis is on facilitating groups to develop collaborative approaches to change and may involve a number of interested parties. This means that the research is likely to be interpretive and participative. The Action Research approach is particularly suited for the practitioner researcher as it focuses on the practitioner seeking to improve aspects of their own and their colleagues' practices.

Action research is intended to improve a real life problem situation by:

- identifying and clarifying the problem;
- identifying and implementing the change intended to improve the situation;
- testing and evaluation to determine the impact of change made on the original problem

Key characteristics of this approach are that it demands the active participation of the researcher, usually with colleagues/ peers in a situation where the practitioner has the expertise and authority to make changes to existing practice to improve a problem situation.

### Learning Task 5

Watch the following video and make notes on the described features of action research.

<https://www.youtube.com/watch?v=96aM9OgSauM>

### Suggested additional reading:

Coghlan D and Brannick T (2014) Doing Action Research in your own Organization, 4th Edition, London: Sage.

McNiff, J, Lomax, P and Whitehead, B, (2010) You and your action research project, London: Routledge.

## Case Study

The Case Study approach is ideally suited to the resources and environment of a practitioner researcher as it can focus on the practitioner's place of work, or another institution or organisation: a company, a school or a voluntary organisation. The "Case" might be an element of an organisation: a work team, a department or an interest group, or the focal point might be on one individual, or a small group of individuals. Case studies involve the detailed in-depth study of a small number of cases, and are therefore often comparative or evaluative in nature. Any data collection technique may be used within case studies. It is important to provide a full context and rationale for cases studied.

The chief limitation on the value of case study is the question of how far understanding of a specific case, with its rich context, can be transferred to other situations. That is, the findings may not have reliability. Case study often employs highly qualitative data collection techniques which enable a deep understanding of the case in question. An advantage of a case study approach is that it enables the use of both quantitative and qualitative data to explore the situation, such as documents, interviews, and questionnaires in order to inform the whole 'picture' of the subject of study.

### Learning Task 6

Watch the following video and make notes on the main features of case study:

<https://www.youtube.com/watch?v=gQ-foq7c4UE4>

### Suggested additional reading:

Yin R (2009), Case Study Research, 4th edition, London, Sage.

Cohen L, Manion L and Morrison K (2011) Research Methods in Education, 7th edition, pp 289-302, London: Routledge.

## Experiments

The experimental method is often associated with the physical sciences where materials and non-human life forms are more amenable to experimentation. Experiments are also widely used as a research approach in a number of the social sciences, particularly psychology.

An experiment involves the creation of an artificial situation in which events that generally go together are separated. The participants in an experiment are called subjects. The elements or factors included in the study are called variables. Independent variables are those systematically altered or controlled by the experimenter. Where an experiment can be constructed it has the advantage of providing data which is likely to be numeric and thus easily quantifiable. Quasi-experiments are more likely to be used in practitioner research projects. These involve manipulating one variable in a naturally occurring situation in order to assess the effects. For example, providing one department with some extra equipment and then measuring change in performance against another department that were not provided with the equipment. Conducting experiments involving humans raises ethical issues which should be carefully considered.

### Learning Task 7

Watch the following introduction to the experimental method

<https://www.youtube.com/watch?v=7q8acfBx5to>

and consider and make notes on whether your research aim can be achieved by conducting an experiment.

### Suggested additional reading:

Cohen L, Manion L and Morrison K (2011) Research Methods in Education, 7th edition, pp 312-334, London: Routledge.

## Survey

As a research approach, surveys are usually associated with the idea of asking groups of people questions. The major research techniques used in the survey approach are the questionnaire and the interview and therefore surveys can be qualitative or quantitative in nature. The main advantage of the survey approach is the ability to gather data from a wide range of representative respondents.

A survey entirely based upon questionnaire would be limited in terms of the depth of enquiry which can be undertaken. However, it could make up for this in terms of the breadth or range of results achieved. To achieve this breadth the researcher needs to survey a representative sample of the population of interest. Sampling or the selection of sufficient numbers of people to target in the population of interest can use a sampling frame which helps ensure that there are sufficient numbers of participants in categories or variables of specific interest. For example, if the population of interest to you is the staff within your organisation, how many responses are required to be sure that the results you achieve are valid for everyone? Who would you need responses from to ensure you have achieved a representative range of opinion? Would it be useful to ensure there both men and women are represented, or both senior and junior members of staff?

### Learning Task 8

Watch the following introduction to the survey approach

<https://www.youtube.com/watch?v=z3a-BWEWBIGQ>

and consider and make notes on whether survey is an appropriate approach to answer your research questions?

## Deciding upon your approach to practitioner-research

To determine the most appropriate approach for your work-based research project you need to consider your:

1. Practitioner inquiry research questions (ie the questions that you as the practitioner – researcher have to answer in order to achieve the aim of your research).
2. Personal strengths and preferences.
3. Opportunities available to you: for example, are you in an position to undertake action research or an experiment?

It is perfectly acceptable to combine approaches (for example, adding depth to a survey by combining it with selective case studies) but identifying the dominant practitioner research approach first will help you clarify your thinking about how to undertake your project and the best research techniques to use. Beware of the attraction of choosing an approach just because it is likely to provide data of a numeric nature which is easily quantifiable. Quantitative research is not automatically more 'scientific' or more 'objective' as it involves subjective judgement by the researcher. Qualitative data can often provide understanding which would not emerge from a purely statistical analysis. The focus of the study should direct you to the type of research approach that will best answer the questions.

## Issues to consider when choosing how to undertake your practitioner inquiry

1. What do you want to find out?
2. How can you fully capitalise on existing skills and knowledge?
3. In what ways might the research add to your skills and knowledge?
4. What opportunities are available to collect data as part of your work?
5. Do the inquiry/research questions you have identified suggest a particular approach?
6. What data do you need to collect, in what format and from whom?
7. How will your position as practitioner-researcher affect your inquiry/research?
8. Are you in a position to influence and evaluate change (necessary to complete the action research cycle)?
9. Is it appropriate to combine approaches or families, for example, qualitative data from a case study to add depth to quantitative data from a survey?
10. How can you ensure that you are not being unduly dependent on one source of data?

## Justifying your research approach and data collection techniques

The classic tests for research are:

1. **Validity.** This refers to the measuring or investigating what you set out to research by, for example, asking the appropriate research questions and using legitimate methods to obtain information which is analysed to leads to logical conclusions and recommendations. Combining different techniques in order to be able to cross check the findings is known as **triangulation**.
2. **Reliability.** This means being able to gain consistent results from the application of the same research methods.

These two tests are most closely associated with the **“positivist” research paradigm**. Researchers working in an interpretive or critical theory paradigm are more likely to speak in terms of the **“Trustworthiness”** of the research and use the following tests:

1. **Credibility** for internal validity.
2. **Transferability** for external validity/generalizability.
3. **Dependability** for reliability.
4. **Confirmability:** for objectivity.
5. **Authenticity** also refers to criteria for determining the trustworthiness of the research.

You will need to consider how validity and reliability will be represented in your project. Will you follow a qualitative approach or quantitative? How will you demonstrate your results are reliable?

### Learning Task 9

Review your notes on the research approaches and identify which one you intend to use as your main approach. Write a short rationale for your choice.

### Suggested additional reading:

Cohen L, Manion L and Morrison K (2011) Research Methods in Education, 7th edition, pp 256- 288, London: Routledge.



# Data collection techniques

Data collection techniques are the means by which the researcher gathers data to answer the research questions they have identified. The choice of technique will be determined by the research questions, the research approach and the time and resources available to the researcher. It is likely that a researcher will use a range of techniques to explore their identified research questions and thus enhance the validity of their research findings. This planned combination of techniques to increase confidence in the research results is known as **triangulation**.

Four main data collection techniques are discussed:

- **documents and literature;**
- **interviews;**
- **observation;**
- **designing and administering questionnaires.**

## Documents and Literature

Practitioner research frequently involves the use and analysis of documents often in combination with other data collection techniques such as interviews. Researchers are expected to read, understand and critically analyse the writing of others and relate such analysis to their own research.

**For further information** see Cohen L, Manion L and Morrison K (2011) *Research Methods in Education*, 7th edition, pp 444- 455, London: Routledge.

## Interviews

A popular method of collecting qualitative data is by interviewing people. This can be done in several ways:

1. Face-to-face or over the telephone;
2. with an individual or a group of people;
3. using a structured list of questions or a more informal method of interaction.

Researchers choose the type of interview according to the needs of their research. For example, if the group of people to be interviewed are spread far apart, the researcher may choose a telephone interview, whereas if the information being collected is sensitive, then the researcher may feel that a face to face interview is more appropriate. Telephone interviews often work well for practitioner research as it enables information to be collected with minimal inconvenience.

Interviewing can be time consuming but has advantages as an interviewer can probe responses to investigate further the area of interest. When considering an interview the researcher needs to be aware that interpersonal variables like the gender, ethnicity or personal qualities of the interviewer could affect responses.

The interview method involves questioning or discussing issues with people. Many options of the interview method are available. A semi-structured interview which includes set questions or themes with the flexibility of following interesting or useful emerging issues is often most appropriate.

Researchers who use interview need to consider:

- What data do you need to collect to answer your research questions that may only be provided by other people?
- Who do you need to interview and why?
- Where would be most appropriate to hold the interview - neutral ground or 'home' ground?
- At what point in the research process would it be best to interview?
- What questions need to be asked?
- The degree of structure in the interview - structured, semi-structured or unstructured?
- Whether all the interviews will include the same questions and follow the same structure? If not, why not?
- How are you going to record the interview - whether to make notes during the interview or use a tape recorder and transcribe notes afterwards?
- How are you going to access the data from the interview - transcribe tape recordings, order and/or reflect on your written notes?
- How will you ensure that you comply with ethical and confidentiality issues and relevant legislation such as the Data Protection Act and the status of what is said - is everything on the record? the status of what is said, ie is everything on the record?

**For further information** see Cohen L, Manion L and Morrison K (2011) *Research Methods in Education*, 7th edition, pp 409- 443, London: Routledge.



## Observation

Observation involves the researcher in watching, recording and analysing events of interest. There is a range of different approaches possible in observational studies:

- the events may be recorded, either at the time or subsequently by the researcher, or they may be recorded electronically;
- the observations may be structured in terms of a predetermined framework or may be relatively open;
- the observer may also be a participant in the events being studied, or may act solely as a 'disinterested' observer.

Using observation as a method of data collection is very time-consuming as it involves not only the time involved during the observation but also afterwards when the researcher analyses and interprets what has been recorded. A major advantage of observation is that it can provide both quantitative and qualitative information often of a behavioural nature that will yield information about the interpersonal relations of those being observed.

**For further information** see Cohen L, Manion L and Morrison K (2011) *Research Methods in Education*, 7th edition, pp 456- 4475, London: Routledge.

## Questionnaires

Questionnaires are one of the most widely used data collection techniques in practitioner research. This research technique dominates the survey approach, but is also often a feature of action research. The aim is to devise precise written questions for answer by a predetermined group or sample. The questionnaire can provide a means of gathering data from a wide range of respondents in a comparatively short space of time.

You should expect to receive approximately 20 per cent response rate from a postal/electronic questionnaire and 50 per cent from face-to-face delivery. Low response rates are often problematic as they can affect the validity and reliability of your data. However the practitioner researcher may be well placed to help ensure a good response rate.

Questions need careful definition as does their positioning and layout in the questionnaire. The target group must be clearly identified and the framework for analysis of replies determined in advance. You should carefully consider how you are going to be able to encourage your respondents to complete the questionnaire. The form and content of the covering letter that accompanies your questionnaire should be considered in your overall design. Designing an effective questionnaire is not easy. It is therefore essential that you undertake a small scale pilot of your questionnaire and obtain feedback from your tutor. The pilot with typical respondents should test if the questions make sense, are in the correct sequence and are visually well presented.

Questionnaires are efficient in providing quantitative data but do not readily yield answers of a qualitative nature. The combination of questionnaire with selected interview is an effective way of providing depth to a survey approach.

For further information see Cohen L, Manion L and Morrison K (2011) *Research Methods in Education*, 7th edition, pp 377- 408, London: Routledge.

### Learning Task 10

Identify the data collection techniques that you intend to use and write a short rationale for your choice in terms of the strength of the technique (reference research texts) and how it fits with your research questions.

## Data Analysis

The Data analysis is an ongoing process which should occur throughout the conduct of research, with earlier analysis informing later data collection. The analysis of data will normally be against the original aim and research questions.

The data generated is likely to be in several different forms:

- questionnaire responses;
- interview notes, recordings or transcripts;
- copies of documents;
- literature ;
- information from the internet or intranet (eg for policy documents);
- notes of readings;
- notes or recordings of observations;
- measurements of behaviour;
- charts, maps, tables or diagrams, mind maps, rich pictures photographs;
- notes from your research diary;
- other forms of data.

## Qualitative and Quantitative Data

Among these types of data there is a basic distinction between quantitative (numbers) and qualitative (words). This influences the way data is analysed and presented. The qualitative researcher will usually have a large quantity of written notes and material such as audio or video recordings that have been transcribed. Quantitative data can be analysed in a variety of ways including descriptive statistics such as mean, median, mode and percentage, and more complex statistical analyses that can confirm the degree of certainty that one variable is related to another.

The techniques used for the analysis of data will relate to those used in the design of the data collection technique used to generate the data. For example if you used a quantitative design such as the Lickert scale, the techniques for analysis will be of a numerical kind.

At a simple level it is possible to apply a thematic analysis by identifying recurring themes across the sources of data providing your samples are representative. Of course the recurrence can be counted and therefore measured, or alternatively, used to signpost trends in the form of themes that emerge from a close reading of the data.

Raw data no matter what its form (eg from questionnaires, interview schedules and checklists) needs to be recorded, analysed and interpreted. For information to be collated there needs to be categories for analysis so there is consistency in the similarities, differences, groupings and patterns identified. Ideas for categorisation should start early on in your planning stage when you begin to think about the most efficient way of collecting the information you need.





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## Analysing documents

Documentary analysis involves the careful consideration of a range of related questions, as summarised below:

- Who is the author?
- What is their position and what is its significance?
- What are their biases – political, personal?
- Where and when was the document produced and what are the implications of this historical perspective?
- Why was the document produced?
- How was the document produced?
- In what context was the document produced, and is your analysis of the context similar or different to that of other relevant persons?
- What are its underlying assumptions?
- What does the document say and not say and why is it presented in this manner?
- How is the document presented?
- How well supported and convincing is its argument?
- How does this document relate to previous ones?
- How does this document relate to later ones?
- What do other sources have to say about it?
- Who is the intended (official) audience?
- What is the ethical and/or value basis of the document?

Documents, whatever their nature (statistics or words, official or unofficial, public or private) need to be critically assessed. Much of the significance and interest in documents is revealed when they are considered in relation to each other, and to other forms of data. We develop our ideas of the concepts, issues and policies with which documents deal through comparative analysis.

## Analysing Questionnaires

Be sure that each of your questions will provide the information you need. Ask yourself how will this question be analysed / interpreted and presented? Think about the types of question you include in the design of your questionnaire as this will affect the analysis.

**Questionnaire checking** should be done as soon as the completed questionnaire is returned. Check to ensure all the questions have been answered correctly. Add a reference number which you should put in your data file to enable cross-checking. Ensure that you are recording data anonymously and observing the status of confidentiality to your respondents.

Questionnaires are likely to produce quantitative data that can be statistically analysed. Computer software packages (eg SPSS) are helpful for the analysis of questionnaires. If you are using a software package it is essential that you decide before collecting your data how you will code it into the data template.

**Setting up the data template** (or SPSS data file) can be done while you wait for your questionnaire to be returned. This file will be used to input your data into.

**Coding your questionnaire:** There are five steps involved in the coding process:

1. Develop the coding frame for both pre-coded (closed) and open questions.
2. Create a code book and coding instructions.
3. Code the questionnaires.
4. Transfer the values to a computer.
5. Check and clean the data.

**Coding** involves assigning names or numbers to convert questions on

your questionnaire into variables for the purpose of analyses. On a hard copy of your questionnaire identify your variables and assign a number or name to each. Variables can only hold one piece of information. For questions with multiple parts (eg 1a, b and c) each part that has a separate answer needs to be assigned a variable name/ number. Separating the issues of importance or the variables allows the analyses to concentrate on each issue or look at similarities and differences between variables.

Some packages can analyse these but the researcher could read the answer given and interpret into categories. For example, 1 = positive statement, 2 = neutral statement, 3 = negative statement. Alternatively, it may be analysed in a more qualitative way.

Even with this small amount of data coded, once several questionnaires have been input there are a range of possible analyses that could be undertaken. For example:

- the percentage of interview undertaken by (coded) length of time;
- the percentage of interviewees perceiving the interview to be too long, too short;
- the percentage of interviewees making positive, neutral, and negative statements;
- the relationship between actual length of time and interviewee's view of length of time;
- the relationship between type of comments on length of time and actual length of time.

The choice of analyses from the possibilities available should be decided at the design stage in order to answer your research questions.

## Analysing Interviews

The analysis of data collected from interviews can be complex. The data is not cold. It has been collected within a certain context or a variety of different ones and must be analysed with that in mind. Care must be taken that comments are not lifted or quoted outside the context or out of sequence.

Data can be put into categories that the participants use themselves (sometimes called indigenous categories) or categories that the researcher has decided are important (researcher categories).

Researchers often make use of quotations from participants. Meaning may be lost in selecting, interpreting and summarising the data, and quotations help the reader to understand the reality of the situation under investigation. Quotes are usually selected because they typify the data and are examples of emergent themes.

Content analysis starts with qualitative data and attempts to explain its meaning by a systematic, quantitative analysis of the content. This data can then be rigorously analysed and subjected to statistical significance testing.

## Analysing Observations

Analysing and interpreting data recorded from observations is complex and requires a sensitive understanding of the context for the event/meeting that was observed. Data will always be both qualitative (how and why) and quantitative (how much and when). As such the researcher needs to draw up a coding framework that ensures it is analysed within reasoned boundaries of subjectivity and objectivity.

### Learning Task 11

Review this section on data analysis and do further reading in Cohen L, Manion L and Morrison K (2011) *Research Methods in Education*, 7th edition, pp 454-573, London: Routledge on forms of data analysis that you think might be relevant to your research proposal. Make notes on the forms of data analysis that you intend to use in your research.

## Writing Your Research Proposal

### Learning Task 12

Following the format given below draft your research proposal and send it to your academic adviser for feedback. The proposal should be 4000 words (minimum 3600 and maximum 4400). Carry on reading about your chosen research approach and data collection technique(s) while you are waiting for feedback.

## The 12-point template for your research project proposal

**1. Working title** of your research project

**2. Introduction:** This provides the background to your research proposal and should include details of the context (for example your organisation/department and the wider business/operational context) for the research project.

**3. Aim:** What is the main aim of your research project? Explain why the subject of your research is significant in the context of your work and identify the target audience(s) for your research report/product.

**4. Research Questions:** Identify the main research questions which you as practitioner-researcher will have to find the answers to in order to achieve the aim of your research project (as described in 3 above).

**5. Research Approach:** Identify and provide a rationale for your research approach (which must be referenced to appropriate research literature) in relation to your position as worker-researcher, the sources of information available to you, your project aim and your research questions. If applicable you should also identify and discuss any other research approaches which you seriously considered and explain why you decided not to use them.

**6. Data Collection and Analysis:** Identify and provide a rationale for your data collection techniques (which must be referenced to appropriate research literature), make specific how you intend to analyse the data you collect and how the data will help you address each of your research questions (as described in 4 above).

**7. Research feasibility:** Provide an action plan for your research project to demonstrate how you will manage it in the time and with the resources available.

**8. Research Project report/product:** Describe how you believe the research project report/product will meet the needs of your target audience(s).

**9. Reflect on your role as worker-researcher:** Critically reflect on your role as worker-researcher including your work role and relevant expertise. This will require you to reflect on the context in which you work in order to evaluate the opportunities and constraints that may impact not just on your choice of research project but also potentially on the design, conduct and outcomes of your research.

**10. Ethical Considerations.** Identify any ethical issues which are raised by carrying out the research described in your proposal (items 1 to 9 above). For each ethical issue identify how you propose to address it and mitigate risk to individual participants, the work organisation/professional context and yourself.

**11. Critical evaluation.** Critically Review your research proposal as described in 1 to 10 above. Identify and evaluate the strengths, weaknesses, opportunities and threats facing your research?

**12. References:** Use the referencing style identified by your School to identify the sources of all references you have cited in your research proposal.

**Learning Task 13.** Produce a final version of your research proposal (taking into account feedback received). Check it carefully for spelling, accuracy, attention to ethical considerations and to ensure you have not accidentally committed plagiarism and then submit it for formal assessment.

# Bibliography

Bell J and Waters S (2014) Doing Your Research Project, 6th edition, Maidenhead: OUP.

Coghlan D and Brannick T (2014) Doing Action Research in your own Organization, 4th Edition, London: Sage.

Cohen L, Manion L and Morrison K (2011) Research Methods in Education, 7th edition, London: Routledge.

Costley C, Elliott G and Gibbs P (2010) Doing Work Based Research, London: Sage.

McNiff, J, Lomax, P and Whitehead, B, (2010) You and your action research project, London: Routledge.

Workman B and Nottingham P (2015) Work based projects, in Helyer R (2015) The Work Based Learning Student Handbook, 2nd edition, pp 253- 277, London: Palgrave.

Yin R (2013), Case Study Research, 5th edition, London, Sage.

# On-line Resources

## What is Research

[https://www.youtube.com/watch?v=Og4BGyZr\\_Nk](https://www.youtube.com/watch?v=Og4BGyZr_Nk)

For more information about Action Research see:  
<https://www.youtube.com/watch?v=96aM9OgSauM>

For more information about case study see:  
<https://www.youtube.com/watch?v=gQfoq7c4UE4>

For more information about the experimental method see:  
<https://www.youtube.com/watch?v=7q8acfBx5to>

For more information about the survey approach see:  
<https://www.youtube.com/watch?v=z3aBWEWBIGQ>

## Learning Outcomes for Practitioner Enquiry Levels 4 to 7

### Level 4 Planning a practitioner Enquiry Project

Module learning outcome description	
LO1	Select inquiry methods and plan their use in a way that is appropriate to their work context.
LO2	Demonstrate an understanding of underlying ethical considerations relevant to undertaking a project in their immediate work context.
LO3	Demonstrate the ability to write a project plan which is appropriate for an academic and work audience.

### Level 5 Designing Practitioner Research

Module learning outcome description	
LO1	Make an informed selection of research approaches and data gathering techniques.
LO2	Demonstrate links between the aims of the research, the chosen methodology and the work imperatives concerned with a view to making a contribution to personal professional practice.
LO3	Demonstrate an awareness of key ethical considerations of undertaking research as an insider in their professional area/work team/community of practice.
LO4	Develop a written research proposal which is appropriately constructed and communicated to an academic audience.

### Level 6 Advanced Designing Practitioner Research

Module learning outcome description	
LO1	Make a reasoned selection of research approaches and data gathering techniques.
	Demonstrate an understanding of underlying ethical considerations relevant to undertaking a project in their immediate work context.
LO2	Demonstrate clear links between the aims of the research, the chosen methodology and the key work imperatives concerned with a view to making a contribution to professional practice
LO3	Demonstrate an understanding of key ethical considerations of undertaking research as an insider in their professional area/work team/community of practice.
LO4	Develop a written research proposal which is coherently constructed and communicated to an academic audience.

### Level 7 Postgraduate Designing Practitioner Research

Module learning outcome description	
LO1	Make a reasoned and critical selection of research approaches and data gathering techniques.
	Demonstrate an understanding of underlying ethical considerations relevant to undertaking a project in their immediate work context.
LO2	Demonstrate clear links between the aims of the research, the chosen methodology and the key work imperatives concerned with a view to making a significant contribution to the professional practice of self and others.
LO3	Demonstrate a critical understanding of key ethical considerations of undertaking research as an insider in their professional area/work team/community of practice.
LO4	Develop a written research proposal which is coherently constructed and persuasive to an academic audience.