Study Guide
Block 1:
Investigating teaching and learning with ICT

Prepared for the Open University by
Deirdre Cook, Robert McCormick and Peter Scrimshaw
E851 Professional Development with ICT

E851 Course Team

Josephine Campbell
Deborah Cooper
Deirdre Cook (Chair)
Paul Hopkins
Robert McCormick
Sue Roberts (Course Coordinator)
Peter Scrimshaw
Helen Sturgess (Presentation Course Manager)

External assessor (E850 and E851)

Don Passey, University of Lancaster

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**Introduction to E851**

**Aims of the course**

This course has four aims:

1. To develop your skills in investigating teaching and learning in your classroom.
2. To develop your understanding of the nature of professional development and school development.
3. To develop your skills in action planning to suit your personal and professional needs.
4. To enable you to analyse change in your institution with an awareness of the issues involved.

The first aim relates to the first block of this course, ‘Investigating teaching and learning with ICT’; the second and third aims relate to the second block of the course, ‘Personal and professional development’; and the fourth aim relates to the third and final block of the course, ‘Professional and school development’. You will see, from their titles, the interrelationship between the blocks. This is one of the main themes of the course, namely that personal development and professional development are strongly linked to the development of the school, and that all should be based on evidence gleaned from teaching and learning in the classroom. There are other sources of evidence and some of them will be explored here; however, other courses in the Open University Postgraduate Programme cover these, most notably E843 Leading Professional Development in Education.

**What you will need**

- A computer with an internet connection, a web browser and a connection to a printer.
- Word-processing software (referred to in this Guide as a word-processor), such as Microsoft Word.
- Your Learning Schools Programme (LSP) teacher material.
- Your LSP and Open University IDs and passwords.
- Access to the LSP Video 4 (if you are in an LSP school, you will find this in the School Organizer Pack).
- Material from your study of E850, i.e. your action plan, and the notes you made as part of your study (e.g. from the reading material and set books), may be particularly helpful.
- Access to the following books:
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We would suggest, too, that you create a Professional Portfolio in which to keep your notes and the material you collect as part of your course work. You may find it helpful to divide the Portfolio into separate sections relating to the three blocks of the course, for convenience when completing the assignments and the Examinable Component.

What we assume

We assume only that you have studied E850 and hence are already familiar with, and have access to, the internet and other basic ICT tools. You will also need access to the LSP web site and the FirstClass Conference. Please refer back to your E850 materials if you are unclear about any practical details on accessing these. If, for any reason, you do not have this E850 documentation, you can get help by ringing:

- the Open University’s Student Helpdesk, tel. (01908) 653972, for technical advice on the use of the E851 FirstClass Conference;
- the E851 course manager, tel. (01908) 560313, for more general guidance and LSP web site access.

E851 is not based specifically on the work of the Learning Schools Programme, as E850 is, but the course does assume that you are reasonably proficient in the use of ICT (information and communications technology) in your classroom. We also assume that you will be in a position to develop classroom activities and to plan your professional development, perhaps with the support or direction of other colleagues in school. Finally, as you will be thinking about and exploring issues at a school level, your colleagues will need to understand your motives when you start to ask questions, request sight of documents, etc. If you have not already done so, it may be useful to alert senior staff. Perhaps a discussion with your head of department or headteacher would be appropriate before you begin work on the course.

How the course is assessed

As with E850, there are three elements of assessment in the course: two pieces of work submitted during the course (tutor-marked assignments, or TMAs); and one piece of work submitted at the end (the Examinable Component). The two TMAs, as their name indicates, are marked by your tutor and form the Continuous Assessment. The Examinable Component replaces the traditional examination; you complete it as you would any other assignment on the course, but it will be marked by your tutor and one other person who will be unknown to you. The final mark you get will depend on what the two markers think of your work. You must achieve a pass grade on the Examinable Component, which is worth 50% of your total course score.

Tutor-Marked Assignment 01: Reporting your investigation

TMA 01 requires you to carry out a small investigation in your own classroom and to report on the focus of that investigation, the investigative methods used, the data collected and what you discovered from these data.
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**Tutor-Marked Assignment 02: Combining personal and school priorities**

TMA 02 requires you to review your recently revised action plan and to re-examine your priorities in relation to your own professional learning and your school’s priorities, in the light of the work done on this course.

**Examinable Component: Reporting on issues of change and professional development**

While TMA 02 focused on the kinds of changes that you will have to undertake and that the school will have to consider, in the Examinable Component you will explore *how* these changes will come about, given the conditions in your school.

**Introduction to the Study Guide**

This Guide to your study on the course gives guidelines on what you should do and what material you will need for the three blocks of the course. This will not usually be on a week-by-week basis, as it was for E850, but in larger blocks of study. We assume that you will adjust this timetable to fit in with your work and family life. Discussions in the face-to-face tutorials and on the electronic conferences will follow a schedule laid down in the *Study Plan*, and you should try to keep up with your work so as to benefit from these. Your tutor will try to be flexible and, as you will see, the nature of electronic conferences allows you to catch up in a way that would be impossible in conventional, face-to-face discussions. You might like to turn to the *Study Plan* now to look at the way in which your work will be distributed over the next few months. Look particularly at the dates for submitting the assignments (TMAs) and the Examinable Component.

It is very important that you stick to the submission dates for the assignments and the Examinable Component. **You must get permission from your tutor if you wish to submit an assignment late.** She/he will only give you permission for good reason, and then only for a limited period. Any delay in submission has to be limited, given the relatively short duration of the course. **You will not be able to vary the date for submitting your Examinable Component.** Whatever difficulties may arise, be sure to contact your tutor as soon as possible and she/he will be able to advise you.

**Introduction to Block 1**

In this block you will work through the planning and carrying out of a small classroom investigation. This will involve setting aims and tasks, selecting your investigation methods and planning the research. You then move on to look at ways of carrying out and analysing the results. Finally, you will look at ways of reporting your classroom investigation, the block finishing with your completion of TMA 01.
Week 1: Establishing your aims and the tasks to be done

(10–12 hours)

The objective for this first part of the course is to help you develop your skills in investigating teaching and learning in your classroom. We will start by asking you to reflect on the work you did for E850.

Reflecting on E850

The focus of E850 was on curriculum development and other professional activities that you carry out as part of teaching (e.g. using ICT for recording assessment data). This culminated in an action plan, which was itself a programme of professional development and which covered what will be the main elements of this course (see above, the section on course aims). It will be some time since you drew up this plan, and you may already have started, or even completed, some of the items on it. In this course we will ask you to:

- revise the action plan (Week 1);
- begin to implement it as you work through the course (Week 2);
- review it again, as part of TMA 02 (Week 10);
- reflect critically on how and why you changed the action plan, as part of your work for the Examinable Component (Week 16).

The plan covered three areas of action:
1. The next steps you will take in developing the teaching and learning activities in your classroom.
2. The developments that you think will be needed in your personal skills and knowledge about ICT, and its use in the classroom and in your general professional work.
3. The implications of (1) and (2) for the school and, in particular, its development plans.

Activity 1

Reviewing your action plan (15 minutes)

Review each of the three areas of action outlined above. Note down any new thoughts you have on the plan, or any new developments both in your professional activities and in the school more generally, which may affect that plan. Shortly we will ask you to think about what you want to get out of E851, so bear this in mind as you carry out your review.

Video 4: The professional teacher in the 21st century

When it was produced in Spring 2000, this video was forward-looking not only in terms of some of the uses of ICT that it explored, but, more importantly, in terms of the developing roles and professional activity of teachers. Again, go back to any notes you made when you viewed the video as part of E850 or, if you can’t locate them, view the programme again. (Video notes are included in the E850 Study Guide.)
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In addition to any thoughts you may have had when you studied E850, consider how the issues raised now might affect your future development. (Again, use your Professional Portfolio to keep your notes on this.)

Activity 2

Setting objectives for professional development (20 minutes)

No doubt you chose to study E851 with some particular reasons in mind: note these down now. You should aim for no more than ten personal objectives and relate them to the course aims listed above, although you might want to express them in different language or in a different way. Keep these objectives somewhere prominent in your study area or in the course material itself, so that you can return to them from time to time and review them when appropriate.

Now look again at your action plan and write up a new version. The new plan should cover at least the next 16 weeks (as we will be asking you to review it further over that period), but it can take in the whole of the next 12 months if you wish.

Selecting a focus

We now want you to focus on the plan’s first area of action – what you will do to develop teaching and learning activities in your classroom. In E850, the emphasis was on planning and implementing teaching and learning activities, but with some thoughts on evaluating them too. However, when you carried out this latter element of evaluation in E850, we did not provide any tools to help you; the first block of this course will give you these tools. Before you turn to them, however, we want you to decide on a clear set of classroom activities involving the use of ICT which you would like to investigate.

Activity 3

Selecting a focus of investigation (30 minutes)

From the teaching and learning activities you will be doing in your classroom in the coming weeks (Weeks 2–6 of the course), choose two that would be suitable to investigate, using the following criteria:

- the activities should relate to the areas you have opted to explore in your revised action plan;
- they should only last one or two lessons.

Write notes on what it is in particular you want to investigate, i.e. the teaching and learning questions/issues on which you would like to focus (jot down your thoughts on each item alongside that item). These should be specific: for example, if you are investigating the development of group work round the computer, you might want to look at the following:

- How much talk takes place around the computer, and what kinds of talk?
- What roles do different pupils in the groups take (e.g. are there any gender- or achievement-related differences)?
- What is the impact on learning outcomes of this sort of group work, and what is it about the presence of the computer which affects this?
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Keep your chosen questions/issues in the forefront of your mind as you carry out your investigation (though you may change its nature and scope along the way). The investigation should take in the following:

- What you know about the teaching and learning questions/issues raised (which may be more than just the impact of ICT).
- The kinds of information you need to collect while the activities are running (e.g. any classroom observations you need to make).
- How you might go about making sense of the information collected.
- What implications you draw or actions you take as a result of your investigation.

Reading 1

Section 1 of the Methodology Handbook contains important information on the principles that underpin your investigation into the use of ICT in the classroom. Read 1.3–1.6 (this should take about 30 minutes). These subsections will help you when planning your investigation, but you may need to revisit them over the next few weeks as your plan evolves. For the moment, read them through and make brief notes about any ‘rules’ for researching which are new to you or significant for the work you have in mind. For example, who needs to be informed and from whom do you need to get permission in order to work in the way you propose?

We will now look briefly at the concept of the ‘teacher as researcher’ and the links that exist between this approach and action research (see also Week 3, ‘Teaching as a research-based profession’). There has been a considerable growth in interest over recent years in teachers researching their own practice as part of their professional development. If this is new to you, the next reading will help you to see the origins and development of these ideas in a very practical way that links directly to teachers’ everyday work.

Reading 2

Read ‘Changing primary classroom practice through teacher research’, by Rosemary Webb (in the Supplementary Reading booklet). Note in particular the criticism that this approach seldom leads to radical change. This latter issue is particularly important in Block 3, ‘Professional and school development’, so bear in mind what Webb has to say about it when you come to this block.

Web site work

Alternatively, if you would prefer to read what some ‘experts’ and other teacher researchers have to say about teachers researching their own practice and professional development, then visit the research web sites in the Resources folder (on the E851 conference). As Section 1 of the Methodology Handbook (1.1) points out, you will find that publications use a variety of terms to describe the area of research and practice. Although there are often similarities in the way these terms are used, you may also find significant differences.

The web site for the Telematics Centre at the University of Exeter School of Education offers creative solutions for the effective use of ICT in education and business. It has established the potential of ICT in a range of contexts and
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settings, and leads a number of complementary projects both in the UK and internationally. Staff at the Centre have expertise in the development of educational services, creation of multimedia learning material, management of change, staff training, research and evaluation.

You will also find useful information on the web site belonging to the National Foundation for Educational Research (NFER), an independent body undertaking research and development projects in all sectors of the public education system. NFER aims to gather, analyse and disseminate research-based information with a view to improving education and training.

The web addresses for both of these are in the E851 conference Resources folder.
Week 2: Collecting information

(10–12 hours)

Even for a small investigation of the kind you will carry out, it is worth doing some systematic reading to check:

- what has already been done in the area you have chosen to investigate;
- that your subject knowledge of that area is up to date;
- how other writers and researchers have thought about (conceptualized) the current issues in that area;
- what methods of gathering and presenting information others have used.

By now you will have collected together a range of potentially useful material. In your Portfolio you should have the following:

- Reflections and notes on your work for E850
- Your action plan review
- Notes on Video 4
- Professional development objectives for E851
- Preliminary notes and decisions about your planned investigation
- Your notes on practitioner research

You should now extend your range to sources outside the course material. Although you won’t have much time to take in many other sources, you should be aware of what is available. This may include books, journal articles, etc. along with useful web sites.

Reading 3

Read Section 6 of the Methodology Handbook, which will help you determine the relevant online resources for your study. The introduction (6.1) outlines its purpose and scope, then ‘Help and advice’ takes you through the process of identifying keywords, using the notes you made during Week 1. There are also some introductory activities which are helpful if you need further guidance on making searches.

Section 6 offers much practical information on using public and other libraries during the course. Subsections 6.4 and 6.5 give details on electronic journals, where you will probably find the most up-to-date material. 6.6 is particularly helpful if you are considering taking a quantitative approach to your study. 6.8 deals with searching for material published by official bodies such as Ofsted and other government departments, which can be very useful for school-based research. Although you may be familiar with many of these sites, there may be some listed that will be new to you. If you are an experienced web user, you will find much in 6.11 that relates to your existing professional practice with ICT. Example 6.1 presents one student’s step-by-step account of a personal search for information for professional use, which may give you a model to follow.

The range of the material available may be greater than can be accommodated in the time available to you, but you will find that Section 6 of the Handbook contextualizes the ‘mechanics’ of searches in a very helpful way.
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Activity 4

Searching for useful information (30 minutes)

Using the notes you have compiled as you worked through the section ‘Selecting a focus’ (see Week 1), do the following activities:

1. In Section 6 of the Methodology Handbook, go through the process outlined in 6.1.
2. Identify not more than five keywords to help you with your search.
3. Outline the first two steps you propose to take: for example, using the ERIC database, then checking the NFER web site.
4. Post your ‘starting sentence’, ‘keyword’ list and first steps onto the E851 conference.
5. Keep the conference under review to find out about similar work proposed by other colleagues.

Conference and web site work

Nos. 3–5 in Activity 4 above form this week’s conference and web site work.

Reading for information

When you start reading, you will find either that there is little which seems relevant to you, or that you are overwhelmed by the quantity of material available. Refer back to Section 6 of the Methodology Handbook for ideas on how best to widen or narrow your searches.

As you read through your collected material, remember that yours is a small-scale project and you will need to cover a number of aspects in your write-up for TMA 01 besides the bare details of the topic you are studying. Remember, too, that the type of investigation you are doing will have a significant influence on the type of documentary material you find useful. You will have to be very focused in your reading, and selective about the material you collect and eventually incorporate into your report.

It is vital that you keep notes on the items you read – as your investigation develops, your ideas may change, and good records will save you time and energy if you decide to revise your original ideas. Also, keep accurate bibliographic references of the sources for the various items – again, this will save you a good deal of time.

One of the advantages of reading about other people’s work in the area you are investigating, is that you may begin to get ideas about the way in which you are going to collect information in your classroom. You may, for example, find that the area you are interested in has been researched by a major project team and, while you don’t have their resources or their timescale, you could draw upon a single element of their work and investigate that in your own setting, using a different technique or with a different group of pupils. For example, a study by Sanger (1997), on technology use at home and in school for primary and young secondary pupils, raised some interesting points about what children ‘say’ they do at home and what actually happened when a researcher visited. You may have carried out your own survey when you completed Professional Task 2 (on the LSP Professional Development Record) for your earlier work with LSP (or E850), but such research might cast doubt on the validity of some of the responses you received.
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Week 3: Selecting methods and planning an investigation

(10–12 hours)

At this point your ideas about your investigation should be clearer and you will be in a position to make informed judgements about the most appropriate technique for your particular study. In the reading and other work for this week, you will come across ideas on a variety of techniques you can use. You will not need to give all of them equal consideration, and, if you are clear about your approach, you can focus exclusively on one that is most relevant to you.

Teaching as a research-based profession

Today there is increasing interest in the idea that teaching, like medicine, should be an ‘evidence-based’ profession, and that teachers need to be researchers themselves, and critical readers of research by others, in order to bring about improvements in their own practice and the attainment of their pupils.

This view is supported in both practical and financial ways by a number of agencies, one of which is the Teacher Training Agency (TTA) in England. Cordingley (1997–98) explains why the TTA are in the ‘business of promoting teaching as a research based profession’ and outlines the rationale for this decision. Cordingley describes research work done by teachers in some large- and small-scale projects, and suggests that using research evidence can help them to raise pupil achievement. But, to do this easily, there needs to be a body of high quality research on the questions that are of real interest to teachers, and evidence of what really works in classrooms.

Teaching is recognized as a complex process. Involving teachers directly in the systematic collection and interpretation of evidence enables them to have more say in setting the research agenda. It also ensures that the issues which confront them in their classrooms every day are addressed through research that is both relevant and accessible.

The TTA knows that many teachers have used research methods to carry out classroom enquiries, and acknowledges that this approach will help to develop their practice through:

- sustained and disciplined enquiry;
- exposure to expert thinking;
- the opportunity to experiment with new ideas in classrooms;
- the opportunity to reflect on these activities.

It is especially valuable when teachers can discuss their projects and share their findings with fellow practitioners.

Information about TTA-supported projects (e.g. Effective Teachers of Literacy, Effective Teachers of Numeracy, Effective Pedagogy Using Information and Communications Technology to Support Literacy and Numeracy, and School Based Research Consortia) can be accessed through the TTA website.

The TTA’s web address can be found in the E851 conference Resource folder. Alternatively, information about these initiatives can be obtained by contacting: The Research Team, TTA, Portland House, Stag Place, London SW1E 5TT.
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Reading 4

Read Craft, Chapter 7, ‘Methods of evaluating professional development’ (this should take 45–50 minutes). The purpose of reading this chapter is to help you select a technique to match your enquiry. As you read, make brief notes and use them to help you answer the questions that Anna Craft poses at the beginning of the chapter.

Although the chapter focuses on evaluating professional development, it offers a clear overview of the range of techniques available to you as a ‘research toolkit’. (There will be specific issues that arise when you deal with young people, which do not apply in the context of professional development activities. For example, questionnaires completed by pupils pose particular difficulties concerning reading level and the need for open-ended written comments from pupils, which pose less of a problem when teachers are completing questionnaires.)

As you read this chapter, keep in mind that your role is that of a practitioner researcher and not an external evaluator. Your concern is to learn from your practice and make improvements. Some forms of evaluation, such as inspection, are more about making pronouncements that what you (or any teacher) are doing is acceptable, for example, as part of maintaining accountability.

When you have identified a method that appears to satisfy your requirements, turn to Section 2, 3 or 4 of the Methodology Handbook, whichever corresponds to the technique of your choice. These sections will help you to review your technique in greater detail and establish whether your questions, etc., will obtain the information you need for your investigation.

Reading 5

Read Section 2, 3 or 4 of the Methodology Handbook, whichever corresponds to the technique you intend to use. As you read, jot down some thoughts in response to the questions below, which have been derived from those set by Craft in the previous reading. The answers to these will form part of TMA 01:

- What are the strengths and weaknesses of your selected method?
- Why have you rejected the alternatives?
- Will the selected method provide the information you need?
- Will the method be acceptable to those involved?
- Are the time and resource implications of the method acceptable? Have you the time and the means to carry out an analysis of the data you are planning to collect?

Following is some advice on techniques associated with each of the sections in Reading 5. You might like to read this advice through before going on to study those sections in detail.
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Getting information from documents and school resources

Section 2 of the Methodology Handbook considers the various types of documents you may be thinking about using. These are outlined in the introductory overview (2.1), and the practical utility of the different types is evaluated in the final part (2.6). Read the entire section, unless you know exactly what technique you will be using. When you are clear about that, concentrate on the relevant passage and note down in your Portfolio any key issues or action points that you need to attend to before beginning your classroom investigation. You may find that, in answering the five questions outlined in Reading 5, you will have already dealt with the matters that need attention.

Multimedia documents

When we think about documents, there is a tendency to consider primarily or only printed or written texts, perhaps because these are the ones that have been most used by researchers in the past. However, visual and audio sources can be valuable for research purposes. Pictures, photographs, video, music, audio-diaries or CD-ROMs, e-mail or other types of web and internet material can all be considered under the general category of ‘documents’. The medium through which the document is obtained is less important than that each is thoroughly evaluated and not simply accepted uncritically. You need to bear in mind the people who produced the material, their purpose in doing so and the particular view they have, all of which will affect your interpretation of the document. So, it seems reasonable to treat a piece of software as though it were a paper curriculum resource and to look, say, for any gender bias or racial stereotypes that it might contain, if this falls within the remit of your investigation.

Accounts of research published on the web are often referred to as ‘grey literature’. Sometimes these accounts are put up by their authors in order to invite critical comment from their peers, and they may be very much ‘work in progress’. Therefore you need to be cautious about drawing conclusions from what you read, as the authors may still be in the process of formulating their own ideas. Equally, refereed academic journals take great care to ensure that the papers they publish are, as it were, ‘quality controlled’; this may not be true for other forms of publication.

Conference work

You should now e-mail details of your investigation to at least one and preferably more fellow students who have some elements of their research focus in common with you. This common feature might be:

- a topic (e.g. differentiation; questioning; organizing and managing resources; evaluating software in context; assessing outcomes);
- a research technique (e.g. interview or observation);
- a similar pupil age range.

Arrange to exchange information as you continue with your investigation work and data analysis. In this way your e-mail group can become an electronic research cluster, and its members can act as ‘critical friends’. 
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During Weeks 3 and 4 you will be able to follow the conference discussions about the various investigations that you and other students intend to carry out. This will provide you with useful feedback on your emerging ideas about the topic and the techniques you are considering. As with your reading, taking part in these discussions will help you to develop and refine your ideas.

Getting information from people

Section 3 of the Methodology Handbook is structured in a similar way to Section 2: again, this should help you decide how best to read through this material. Even if you feel confident that you will not be using interviews, logs, diaries or questionnaires in your investigation, it is still a good idea to familiarize yourself with each type of approach: first, because this will not be the only piece of investigative work you carry out within your role as a professional; and secondly, because you may find, as many researchers do, that you must make changes to your original plan because of what happens as your investigation progresses.

Seeing what people do

If your investigation concerns what people actually do rather than what they think or feel or say that they do, then you will want to watch them closely rather than ask them questions. Section 4 of the Methodology Handbook gives detailed guidance on a range of techniques for carrying out this method of collecting data. As with the other sections, it gives an overview, a summary and some suggestions on how you might go about reading the material.

Again, when you are considering the approaches suggested and exemplified in this section, keep in mind the scale of your investigation and the need to keep it manageable. In particular, be careful about the use of video and audio recording. At first glance, these two techniques will appear to allow you to ‘get on with’ your key activity of teaching while you collect your classroom data, and may indeed be the best approach for you. However, you will find that you need to set aside a great deal of time to review your recorded material and to make decisions about how you can transfer the important information into your TMA 01 submission. As a rough guide, it can take four hours to transcribe an hour of an interview and even longer if it is classroom recording with the attendant difficulty of audibility. Video recordings of lessons are even worse, with ten hours of transcription for every hour of tape (assuming that you have ways of recording non-verbal behaviour). Then you will need time to make sense of what you have recorded (i.e. to analyse it).

You will probably find that to make good use of video or audio recording, you will need to confine yourself to very focused aspects of the classroom and quite small amounts of time: for example, when observing the kind of discussion children have while they are exploring a web site you have asked them to look at, to see how they cope with sifting out the correct information; you will only need a few minutes of recording and can be focused on what you are looking for in their conversation.

A note of caution

Section 3 of the Methodology Handbook will help you make decisions about the type of information you need in order to research your topic, and offers practical advice on how you can obtain it. You need to be confident that your
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selection from the research toolkit is right for the job you want it to do. You will probably be a participant in the situation you are investigating, and you could, therefore, affect what is happening around you, even though that is not your intention. For example, you might be busily trying to note down the questions pupils are raising as they search for information on a web site; but if they get lost, how do you resolve the dilemma that if you intervene you miss finding out whether or not they can rescue themselves? Should you let them continue long enough to find out that they are unable to rescue themselves, and then intervene? Whatever you decide, you need to note the action you took and the kind of advice you gave, whether you had to be quite directive or offered general advice only.

Like the other sections, Section 3 contains practical guidance on how you might work through it. It covers both large- and small-scale investigations, and some of the techniques outlined may not be appropriate for you to use: for example, the use of diaries and logs might be impractical, given the number of weeks you have to complete this investigation.

Research ethics

It is most important that you think through the issues relating to research ethics, especially if you are wanting information from children or young people. You need to keep in mind the confidential nature of your findings, and to obtain beforehand the necessary permissions/consent to make your enquiries or carry out your observations. We have already made the point that you should be working with the knowledge of a senior member of staff: she/he can advise you on how the school usually handles this.

Activity 5

Planning your research (1 hour)

You should now be able to complete part of your research by entering the information onto the proforma in Appendix 1. The remaining sections can be filled in when you have collected and analysed your data.

Conference work

Post your proforma on your tutor group conference so that you can obtain comments from your fellow students and your tutor.

During Weeks 3 and 4 you will need to develop the material you are going to use when obtaining information from other people or observing in your classroom, i.e. your questionnaires, interview schedules or observation schedules. You should test these out at least once before you use them for your actual data collection, to ensure that whatever technique you use fits with your other teaching activities in a manageable way and collects the kind of information you want. If you propose to make field notes, try doing this in a situation similar to the one you will be in during your investigation. (It can be difficult to watch and write while you are teaching!) Meanwhile, keep abreast of what is happening in the E851 conference, and discuss your approaches with your tutor group. You are expected to carry out the investigation during Weeks 4 and 5, and to compile your report during Week 6 for submission in Week 7. You therefore need to be confident that your chosen way of collecting information works well for you.
Two examples of research investigations

A nursery teacher, who had introduced two desktop computers into her setting, felt that the boys were dominating this activity; so she decided to carry out some systematic observations of the two areas. Bearing in mind her teaching duties, she devised a schedule for the observations which included the times when she would do this, the duration of the observations, and the detail of what she would look for. In her setting, there was an hour during each morning and afternoon session when the children were only using the inside space, during which the staff and helpers were all involved in directly supporting activities in this area. She therefore decided that this would give her the opportunity to make three observations of about five minutes. Over a week or possibly two, she expected to accumulate a fair bit of information, and she adapted an observation schedule she was familiar with so that she could systematically check the same things each time. She also had the suspicion that children only paid very fleeting visits to the computer when there were no adults there to help them, so she added this dimension into her schedule. Over the two weeks she monitored what was happening; but, because of the interest other team members were showing in her findings during the first week, in the second week everyone in the team became involved and she was able to use these data as well as her own. As a result of their work, the staff were able to discuss what they had discovered and to make changes to their existing approach, which everyone felt would improve the quality of all the children’s learning engagement with ICT-supported activities. They were then able to monitor and review these changes over the rest of the term, to see if any further changes might be needed.

Having spent some considerable time working with his class on reading texts for information, a class teacher wanted to find out if the pupils remembered what they had learnt when they came to do similar work with factual material on CD-ROMs. He used observation techniques, but in contrast to the teacher in the previous example, he made detailed field notes of what actually happened when a pair of pupils carried out this work. As he had to fit these observations around his main teaching, he had to be somewhat opportunistic in deciding who and when he observed. The data he obtained were very detailed, and allowed him to learn a great deal about the effect of ICT on particular pupils completing particular tasks.
Weeks 4 and 5: Carrying out your investigation and analysing the results

(20–24 hours)

By now you should be ready to put your research plan into action. However, just before you do so, have a quick check that everything is in place. Use one of the checklists in Appendix 2 to ensure that you have got your questionnaire, interview schedule or observation material absolutely ready, and that you have enough copies, etc., for the data collection period. Ensure that you and any other people involved know what your plans are and when they will be carried out. Prepare for the unexpected as much as possible – it can, and usually does, happen in most research. The Methodology Handbook contains detailed advice on the practical aspects of data collection and will be useful to have with you while you work, in case you feel the need to check up on details or amend your plans.

It may be tempting to leave analysing your data until you have collected it all in, but this may not be the most useful approach. For example, you may find that an important interview question you thought was very clear is being interpreted by your pupils in a different way from what you intended, and you might want to consider making changes while you have the opportunity to do so.

Whatever the nature of your data, you need to develop a systematic method of dealing with your findings and then apply it consistently to all your material. Section 5 of the Methodology Handbook considers how best to deal with different types of data – qualitative (5.3 and 5.4) and quantitative (5.5 and 5.6).

Reading 6

Analysing quantitative and qualitative data

In Section 5 of the Methodology Handbook, read subsections 5.3 and 5.4 or 5.5 and 5.6, whichever is relevant to the type of data you want to analyse. Note down the points you need to be aware of and how you should carry out the analysis.

Section 5 also contains advice on presenting your data and including evidence in your investigation report. While the Handbook takes a general approach, which you will need to follow when presenting your work for TMA 01, there are some specific requirements you need to observe. You will, for example, have collected the relevant material for the report from the work you did in the first two weeks of this course. Then later, you looked at what actually happened in your classroom. You need to draw these elements together both in your analysis and when writing up your report.
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Week 6: TMA 01 – Reporting your investigation

(10–12 hours)

TMA 01 gives instructions on how to prepare your report. Complete the assignment as detailed in the Assessment Guide and send it to your tutor, making sure that you keep a copy. We assume that you will use a word-processor for this assignment.

References


Acknowledgement

Grateful acknowledgement is made to the following source for permission to reproduce material in this book:

## Appendix 1: Research plan proforma

<table>
<thead>
<tr>
<th>Investigative areas initially identified from action plan</th>
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</thead>
<tbody>
<tr>
<td>Influenced by ... (e.g. comments from colleagues, reading in the target area, conference discussions, etc.)</td>
</tr>
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<table>
<thead>
<tr>
<th>Proposed focus of study</th>
<th>1 ...</th>
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<tr>
<td></td>
<td>2 ...</td>
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<td></td>
<td>3 ...</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Proposed research questions (use single-item questions)</th>
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</thead>
<tbody>
<tr>
<td>Technique</td>
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<table>
<thead>
<tr>
<th>Diaries and logs</th>
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<tbody>
<tr>
<td>Observation</td>
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<tr>
<td>Individual interviews</td>
</tr>
<tr>
<td>Group interviews</td>
</tr>
<tr>
<td>Questionnaires for individual admin.</td>
</tr>
<tr>
<td>Questionnaires for group admin.</td>
</tr>
</tbody>
</table>
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Your data collection technique needs to fit with your role as an educator, and you need to have selected an investigative focus that will be manageable in the time available. The most important aspect of the technique(s) you choose, besides their manageability, should be that they will provide you with the right kind of evidence to deal with the research question(s) you have posed for yourself. For example, your colleagues may or may not tell you their real opinions of the new computer suite in a questionnaire or an interview. If you want to know if they ever use this resource as part of their regular subject teaching, you may get a truer picture by actually watching what happens in that space.

In getting information from people, remember:

- confidentiality, ethics and informed consent, especially when dealing with pupil views;
- the pluses and minuses of each technique – none are perfect;
- careful preparation and piloting of your interview schedule or questionnaire is essential – it’s worthwhile, even if you can only try it on one person;
- it is helpful to have some idea, quite early on, about the kind of information you will get and how you might begin to analyse it;
- statistical techniques need to have appropriate sample sizes and use the right kind of data;
- people may tell you what they think you want to hear or what they think they ought to say;
- it’s not essential to ‘prove or disprove’ anything – just carry out your investigation with care, and report it honestly.

Looking back over the past few weeks, you should by now have a clear idea of ...

**what, when, how, with whom, and where**

... you will be carrying out your ICT investigation. In addition, you should be becoming increasingly aware, from your reading, of the contextualization, both academic and professional, against which your work will be seen.

Remember, too, that as a teacher-researcher, you already have many strengths to bring to your investigation. As well as your considerable knowledge of the context, the subject domain and the people with whom you are working, you also have extensive experience of what Blaxter et al. (1996, p. 55) call ‘everyday’ but key research skills:

- reading
- listening
- watching
- choosing
- questioning
- summarizing
- organizing
- writing
- presenting
Appendix 2: Checklists
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