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1::H0w research can be useful

This chapter describes several ways in which research can be useful in a distance-teaching organisation, and illustrates them with examples from : the LDmC (Lesotho Distance Teaching Centre).

Polio idhnce Before designing a distanoe-teaching project you can find out about the potential audience, about the media you might use and about other organisations doing similar work.

Materials desi By testing alternative versions of the same naterial you can provzae gutSeZines to designers on the style or technique they should employ.

KAP (Knowledge, Attitudes, Practices) Before trying to educate people about something it is a good idea to find out what they already know about it, how they feel about it, and what they do about it.

Pre-testing Befbre publishing written material or broadcasting radio programmes you should test the material on a few people to see if it conveys what it is supposed to convey.

Monitoring Collecting information at regular intervals about an ongoing project can warn you if things are going wrong and can also provide a baseline against which to judge the impact of innovations.

Evaluation Research helps you to see to what extent your distance teaching is having the des
ired effect and more generally to assess its
value. :

A ro riate research I am not proposing massive research projects. I am recommending smaZZ-scale pieces of research closely tied to the work of the distance-teaching organisation.

. Policy guidance

Policy-makers need facts. In the early days of a distance-teaching organisation, or even before the organisation is established, policy-makers have to take big decisions about the type of work the organisation is going to do and the way it is going to do it. Thereafter, they are in a similar position every time the organisation takes on a new project. They can use research to provide themselves with the facts they need. In the absence of these facts, the decisions are likely to be over-influenced by other things.

The director of a new organisation will be
strongly influenced by his previous experience; if he has had great success elsewhere in using videotape to stimulate village discussion of local problems, he is quite likely to think, when he takes up his new post, that what is needed is village discussion stimulated by videotape.

Or a director can be over-
impressed by ideas he has picked up on courses; if he has seen puppet

shows used to great effect by other organisations - perhaps in other countries - he may want his own organisation to try them.

This is natural and, to an extent, a good thing. A new director is expected to bring the benefits of his experience and to pick up ideas on courses. But these influences ought to be counter-balanced by facts about the country he's working in. To give a simple example, it would be foolish for a new director to devote a large part of the organisation's resources to television, because of his personal enthusiasm for that medium, if there were very few television sets in the country.

One cannot say in general what facts an organisation should find out. It all depends on the particular policy questions that the organisation faces. But some examples from the Lesotho Distance Teaching Centre might show the kind of facts that research can provide.

Early in the rural education work we had to decide how much use to make of radio and printed materials. If we transmitted a radio programme, how many people would be likely to hear it? If we distributed a leaflet, how many people would be likely to read it? We conducted an interview survey of 250 rural adults and found, among other things, that about half the people could read a simple text, whereas the proportion who would be likely to hear a radio programme was rather small, probably less than a fifth. $ it

Before committing ourselves to offering correspondence courses, we carried out a small test of the postal system. We sent letters to the headmasters of several schools around the country enclosing a stamped addressed postcard. We asked them simply to post the cards straight back to us. We discovered that the postal system worked very well; most letters were delivered in two or three days, although letters to the mountain districts could take up to two weeks. E

Since other organisations were already engaged in offering practical instruction to rural people, we conducted an informal survey of them to find out what they were doing and how we could fit in with them. We put similar questions to all of them (there were about thirty organisations) about their aims and methods, the number of staff they had, and so on. One thing we discovered was that almost all of them relied exclusively on the lecture method of instruction and made little use of support materials such as pamphlets or visual aids. This was because their stock of materials had generally been produced for other countries, not specifically for Lesotho, and they did not have the equipment or expertise to produce their t Throughout the book I will refer To characters such as 'the director', 'The researcher', 'fhe eleor', 'fhe arflst' and so on by using the pronoun 'he'. I am uslng If as an abbrevlaflon of 'he or she'. I do not mean To suggest that such poslflons are held, or ought to be held, solely by men.

it Reports on this survey and on other research mentloned In this book are avallable from LDTC or from other organisations. References are glven In Appendlx 5.

own. Many of them felt the need of an agency which would design and produce materials locally for use in nonformal education. As a result of this, LDTC tried to fill this role. We provided this service, over the next few years, to about twenty organisations.

Because we had discovered that a high proportion of rural adults, especially housewives, could read, and also that there was very little printed material on practical topics in the Sesotho language, we decided to experiment with a range of booklets, simply written, cheap and practical. We wondered what topics to choose. The obvious thing to do was to ask the housewives what topics they were interested in. We had already agreed to produce 10 000 cookery booklets, in response to a request from another agency, so we included stamped addressed postcards in these, asking the readers to tell us which topics they would like us to choose for future booklets. Although only a small proportion of the readers sent us the cards, the order of preference was clear. Not surprisingly, child care was the most popular topic, followed by crochet and vegetable gardening.

One of the questions that arose early in the preparation of courses for examination candidates was how much help the students would need in addition to the correspondence courses. (If, for example, many of them found it too noisy to study at home, perhaps LDTC could arrange for them to make use of school classrooms out of school hours.) To answer this question, we arranged for the Examinations Council to include a questionnaire from us along with the official form that private candidates had to fill in when applying to take the examination. The responses to this questionnaire gave us a good picture of the circumstances in which these candidates were trying to study at home.

As I mentioned at the beginning of the chapter, one may need this fact-finding research even when the organisation is established, if one embarks on a new project. The Lesotho Family Planning Association was one of the organisations that took up our offer of help with the design and production of materials. They asked us to produce support materials, and training in how to use them, for their twenty fieldworkers. This was a new project for us. We needed to know how the fieldworkers actually did their work,-. what problems they had and what sort of materials they thought they needed. We visited about ten of the fieldworkers and found that the main part of their work consisted in giving fairly formal lectures to village meetings. We also attended one of these meetings. This initial research was very useful when we designed the materials - a flipchart to accompany the lectures, and pamphlets reinforcing the same points. For example, we found out what aspects of family planning were felt to be unacceptable for public discussion at a village meeting.

These examples illustrate the diversity of facts that one might need in setting up an organisation or designing a project, and also some of the ways in which research can provide these facts. These particular examples relate to LDTC’s policy questions; other organisations will have other problems and will need different facts. But the general Cluestions that underlie these examples are likely to apply to other-

organis ations :
We needed to find out about the potential ’students’ (private candidates, farmers, housewives, or whoever), about their interests, their abilities, their problems.
We needed to find out about the media that we might use (print, radio, postal services).
We needed to find out about other agencies who were doing the same kind of work.

Materials design

Writers, editors, illustrators and scriptwriters often feel the need for guidelines, especially in the early stages of drafting or designing materials. A course writer might want to know whether to include selfscheck exercises. An illustrator might be unsure whether to use . photographs or line drawings. A radio scriptwriter might wonder . ; whether to present his material as a straight lecture or in drama form. Research can sometimes help.

At LDTC, we tested photographs against line-drawings by producing a set of pictures in both styles, e. g. a photograph of a bus and a line drawing of the same bus. We showed these to a large number of rural people, in individual interviews, and asked them to say, in each case, what it was a picture of. We found that people did not do consistently better with any particular style. The photograph was better for some items, where shading or texture helped people to recognise the object, while line drawings were better for other items, where some small detail was crucial for correct interpretation.

We also conducted a test to assess the effectiveness of various additions to a correspondence lesson. We wrote a basic lesson, which simply presented the information in straight text. Then we produced . different versions of this basic lesson, each one incorporating a learning aid - a lively introduction to capture the attention, a detailed statement of the objectives of the lesson, questions with immediate answers, more general questions, or a summary. We gave each version to a group of schoolchildren and gave all the children the same test at the end. We found that none of the learning aids made much difference,though there was some indication that the questions with immediate answers had a slight effect on the students. There had been some debate among the writers about whether to adopt this or that particular learning aid, and the effect of this unexciting research result was to take some of the heat out of the argument.

Another piece of work of this kind concerned some radio programmes we were broadcasting, which were intended to help people to pass an examination in book-keeping. The scriptwriters wondered how much they should encourage the listeners to take notes. To test this, we produced two different versions of the same programme, one which

suggested in a general way that the listeners might take notes, and the other which explicitly instructed the listeners to take notes, told them which words to write down and gave them time for the writing; the second version was built around the note-taking, whereas the first was not. We played the first version to one class of schoolchildren and the other version to another class, using cassette recorders. We had given a test to each class before the programme and we gave them the same test after it. We found that the class who had heard the second version had taken better notes and that they did better on those test items that required them to remember certain terms. However, they did not do better on those test items that required them to use those concepts. It seemed that they had learnt the terms better, but had not understood the concepts better.

Often, it is not necessary to conduct one's own research to answer general questions about materials design. A lot of research on these questions has been published and you might find that someone else has already discovered the answer to your problem. There are various documentation centres (listed in Appendix 6) who might be able to refer you to the appropriate report.

At the same time, you must think carefully about whether research conducted in another country, and perhaps for a different purpose from yours, is applicable to your particular problem. For example, one researcher reported that people found it easier to interpret a blocked-out photograph (a photograph of an object with the background removed) than a line drawing and, therefore, used blocked-out photographs in his posters and flipcharts. Some people have concluded from this that they should always use blocked-out photographs and never use line drawings. This is silly. Line drawings might be adequate, even preferable, for certain purposes. Research reports from elsewhere can be useful in giving you ideas or warning you about problems you had not thought of, but it is a mistake to adopt their recommendations uncritically.

Knowledge , Attitudes , Practices

If you intend to give people practical advice, for example on poultry keeping, vegetable gardening or familyiblanning, it is useful and sometimes essential to find out first what the people already know about this tcpic, how they feel about it and what they do about it. This is sometimes called a KAP study - Knowledge, Attitudes, Practices. Two examples will show the value of this. We conducted a KAP survey of poultry keeping and found that most poultry owners kept two or three birds and said they might be interested in buying two or three more. To be of use to them, therefore, the advice should be about keeping a small number of birds. This was a useful finding since the technical advice we had obtained from poultry experts was about how to keep fifty or more. Much of this advice would clearly be inappropriate.

We also conducted a KAP survey of family planning. We found that most people thought that if a woman had sexual intercourse while she was breastfeeding, her milk would go bad and poison the child. This helped to explain why many people were hostile towards the idea of family planning. Family plannirig educators were recommending the use of contraception as a method of child-sPacing. In the eyes of many people, this was like recommending that a breastfeeding mother should poison her child. We concluded that if family planning educators recommended contraception for child-spacing, they would also have to present the facts about the effects on breast milk. The two topics were closely related in people's minds; to talk about one and not the other was just inviting trouble.

Pre-testing

Instructional materials should always be pre-tested to make sure that the intended audience can understand them in the way they are supposed to do. I am using the word 'pre-test' here to mean that the materials are tested before they are put to use in a full-scale educational programme.

You can ask some people to read a draft pamphlet or look at a draft illustration and then ask them questions about it. You can ask some people to work through a draft correspondence lesson and then give them a test on it. You can ask some people to listen to a tape of a proposed radio spot or radio programme and then discuss it with them. On the basis of the pre-test results, the writer or artist can alter the material before it is printed in large quantities; the radio producer can modify the programme before it is broadcast.

Writers and artists are inclined to think that their work is perfectly clear, that people could not possibly misunderstand it and that pre-testing is unnecessary. But pre-testing almost always suggests some ways in which the material can be improved and sometimes indicates serious faults in the material.

Sometimes peeple have difficulty with a complicated sentence or with an obscure word or expression. This is particularly likely to happen in a country which uses two'languages - the local language and an international language such as English - and when the material is either in the second language or translated from the second language. When pre-testing an agricultural leaflet, for example, we fouhd that some semi-technical terms for various types of soil made no sense when translated into the Sesotho language for the local farmers.

Sometimes the reproduction quality is not clear enough. A badly printed photograph can cause difficulty, or a poor sound recording. On a radio spot about nutrition, for example, we had some sound effects of someone cooking. Though these noises were reasonablyr clear if you already knew what they were, the pre-test showed that they were not at all clear to other people.

Sometimes people misinterpret material in a way that is

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reasonable yet quite unexpected. A draft pamphlet on family planning, for example, contained a drawing of a husband and wife talking to a nurse at a clinic. In the prestest, many peeple thought that the couple were not married because the artist had put them on opposite sides of the table. Others did not realise that the third person was a nurse, so they thought the people were at home, or in school, or in a police station. Once we had discovered these problems, we could see how easy it was for people to make these mistakes arid how the picture needed changing, but none of us had seen these problems before the pre-test.

A simple pre-test can sometimes show up a small but crucial flaw in the material. I had drafted a booklet which explained how to crochet. It contained sentences such as. 'Hold the crochet hook between thumb and first finger.' For the first pre-test, I just gave the draft to a staff member, with a crochet hook and a ball of wool, and asked him to follow the instructions. He had great difficulty even in just holding the hook and the wool correctly. I asked him why he was not following the instructions and he protested that he was. It turned out that, in Sesotho, the fingers are numbered differently; by 'first' finger, I had meant the index finger, whereas he called his little finger the 'first' finger.

If materials are not pre-tested, there is a serious risk that the people on the receiving end will receive either the wrong message or no message at all. I strongly suspect that, for lack of pre-testing, a high proportion of the instructional materials circulating in developing countries are incomprehensible to the people who are supposed to be learning from them.

Monitoring

Some educational efforts might start and finish in a short time, such as producing and distributing a leaflet or mounting a display stall at a one-day agricultural ShOW. Others are ongoing activities, such as supporting correspondence students or broadcasting a weekly radio programme. For this second kind, it is a good idea to build in some method of having a look, at regular intervals, to see how it is going. You might check on the progress of all your correspondence students every three months, for example; or you might conduct a small survey of the radio audience every six months.

The purpose of this regular check is to warn you of problems which otherwise you might not have known about. For example, in a correspondence college which had many students taking many different courses and sending in their worksheets at various times, the student adviser might not notice if, say, a high proportion of the Students taking mathematics were coming to a halt at lesson three. But if he received a regular report on the progress of all the students, with the information from the students' records collated and well Presented, a problem like this would show up clearly. With the maths

tutors and course writers he could then investigate lesson three to find out exactly why the students were stopping there and to decide what to do about it.

In time, this routine collecting of information produces a picture of the regular, normal functioning of the educational programme. This is very useful as a baseline against which to measure the effect of some innovation. For example, progress reports on correspondence students collected every three months for two years or more will give an idea of the regular dropout pattern; perhaps 40% of those who enrol are dropping out before sending in the first worksheet, a further 2.0% after the first worksheet but before the second, and so on. Y0u can then use this when you launch a new course, to see if the dropout pattern on the new course is different. Or you could see if the introduction of supportive radio programmes seemed to affect the pattern.

Evaluation

I have, so far, avoided the word ’evaluation’ for two reasons. One is that some people seem to think that evaluation is the only use of research . in distance teaching; I have tried to show in this chapter that research has several other uses. The other is that the term ’evaluation’ is used to cover a range of research activities which I prefer to call by different names; some people would use the expression ’formative evaluation’ to cover what I have called ’pre-testing’ and ’monitoring’.

Evaluating the activities of a distancewteaching organisation means making a judgement of their value. This might include measuring the quality and efficiency of the work, seeing to what extent it is achieving its purpose. weighing up any good and bad effects of the work and deciding whether it justifies the money being spent on it. If the programme is still running, you can modify it, on the basis of the evaluation results, to try and make it work better. If the programme, such as a short-term campaign, has finished by the time the evaluation results are known, you can decide whether or not to run another one, and whether to do it differently. More generally, people in other organisations, even in other countries, can decide whether to copy your programme, and the . providers of funds can decide whether to support other such programmes.

It is important to realise that evaluation, even if a project has finished, is not a kind of prize-giving ceremony; the evaluation results are intended to guide somebody to making better decisions and running more successful programmes.

In my use of the term ’evaluation’, it is the educational programme that is being evaluated, not the students. The evaluation of a programme might involve giving tests to the students, to see if they have learnt anything, but the purpose of this is to see how successful the programme has been. It is different from the end-of-term exams that a schoolteacher gives to his pupils where the purpose usually is to measure the achievement of each pupil.

Two examples from LDTC will illustrate the usefulness of evaluation.

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We were offering a correspondence course in book-keeping, supported by a weekly radio programme. The programmes were not closely linked to the course. This was partly because our students were not all at the same place in the course, and partly because we wanted to attract a wider audience to the programmes. The programmes covered the same ground as the course, but in a different way. We evaluated the programmes by interviewing representative samples of the general public and of our own students, to find out how many pe0p1e were listening to the programmes and whether they were learning anything from them. The results showed that the wider audience, even school children studying for the same book-keeping exam, were not listening with enough attention to benefit from the programmes. Our own students did find them useful, but complained about the lack of a close connection with the course. We decided that, if we were to continue with the programmes, we should have to tie them more closely to the course.

The other example concerns the booklets project. We had produced a cookery book and were intending to produce booklets on more topics. Evaluation of the cookery book showed that a very large number of housewives had bought the book and that most of therh had read it, but that they had not used it as much as we had hoped they would. We decided that we should persevere with the project, since there was clearly a demand for practical booklets, but that we should also explore ways of getting the readers to make more use of the booklets, for example by encouraging women’s groups to work through the booklets together at their meetings.

AEEr oEriate res earch

I hope it is clear from the examples I have given that, in advocating research in distance teaching, I am not pr0posing massive research projects. I am not suggesting that all action should be delayed for two or three years while a research team investigates all possible topics of interest and produces a long report. While large research projects might sometimes be justified, they generally suffer from being too remote from action. By the time the report is published, the initial interest in the project has waned. Perhaps the pe0ple who originally commissioned the research have moved on and the report gets presented to someone who doesn’t particularly want it. The issues will have changed in the meantime, so that the report is no longer relevant to the questions that are troubling people. And decision-makers often ignore research results anyway.

The sort of research that I am advocating is closely linked to the organisation’s work. The early research throws up ideas for educational schemes. Discussion of these ideas shows the need for more research. This research then helps to further refine the ideas and so on. The researcher’s task is not to produce a detailed map of the whole terrain; it is to give his colleagues a sufficiently good idea of the lie of the land to enable them to take the best course.

Many distance-teaching organisations do not have a professional,

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experienced researcher on the staff. Is research something that anyone can attempt or should it be left to the experts ? My advice to the non-expert is to read this book (or at least the parts that are relevant to the sort of research you want to do) and have a try. There are risks, of course. You may get into difficulties and never finish the research, or you may produce results that are completely misleading. So I must quickly add a second piece of advice to the non-expert, which is not to spend too much time and money on. it. But if the choice is between trying to do some research, albeit with faults, and not doing any research at all, I'd encourage you to try.

First, the possibility of doing some research puts people in a questioning frame of mind about their work and this, in itself, is valuable. The possibility of a survey of radio listeners, for example, might encourage a radio producer to think, 'I wonder what sort of people listen to my programmes ? I wonder what they think of them? What exactly am I trying to get across to them anyway?' Secondly, the effort to cast a problem in a form susceptible to research often forces people to think more clearly, or in a. new way, about the problem and this also has value, even if the research never gets done. .

But the main value of res earch lies in the guidance that it gives to action, and even an incomplete and faulty piece of research can give guidance. If an artist pre-tests a drawing on some people - even just two or three people - there is a chance that he will discover flaws in the drawing and put them right. It is unlikely that, as a result of the pre-test, he will actually make the drawing worse.

The results of a poorly done sample survey might be wide of the mark, but again, it is unlikely that they would be both totally misleading and sufficiently convincing to put people on a completely wrong course. Most often, the worst that can happen is that the distance-teaching staff will carry on doing what they would have done anyway. Pr0viding, as I said, that the research is not too expensive, there is no great loss.

I have mentioned the expense of research because, of course, . research costs money. If you have full-time research staff, you have to pay their salaries; you have to provide support services (office space, typing and printing, transport); occasionally you have to hire temporary assistants, for tasks such as survey interviewing; you might buy,or hire, expensive data-processing equipment. How much should you Spend?

Practical research is valuable to the extent that the guidance it gives is valuable. Conducting a large sample survey of rural people, for example, is expensive, but it would be worth it if it provided basic information for designing a series of rural education projects. By contrast, it would be inappropriate to conduct an elaborate pre-test and evaluation of a single leaflet which was intended to reach only a hundred people; the research costs in this case would exceed the costs of the educational effort itself. When you finance research, you are, in effect, buying certain items of information; the price of the information is the cost of

the research. You have to decide how highly you value the information before you decide how much to spend on the research. In the early days of a new organisation, or a new project, it might be justifiable to spend as much as 2.0% or 30% of the resourceson research. When an organisation has settled down, I would think about 5% to 10% would be reasonable.
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2 Before embarking on research

The chapter describes how to tackle the dtfficult early stages of designing a piece of research that will eventually provide useful information .

Research commissioned for the wrong reasons Although practical research t8 meant to be un ezrtaken mth the purpose of providing information that will influence the work of the distance-teaching organisation (the ’action’), pieces of research are often corrmissioned which do not have any hope of influencing action. I describe some of the ways this can happen so that researchers can try to avoid getting into useless research projects.

Research methods You choose research methods that fit the problem but you also define the problem to fit your research methods. I draw a quick . sketch of the methods that are described in this book.

Defining the Questions for research It 123 important to get as clear an idea as possible about the information that people want from the research and about what they will do with it when they get it. I describe some ways of clarifying the questions.

Consultin documents and e erts You may find that the infomnation you want alregHy emsts. Experts can help in designing pieces of research.

Time and mone Ways of estimating the cost of a piece of research and the ttme 1t mu take. t

Practical research has to be linked to action. That is the purpose of doing it. But forming this link is not easy. The action problem that the research is meant to illuminate has to be clarified early on, so that a . piece of research can be devised..which will produce results that are relevant to that problem. Later, when the research has been completed, the results have to be fed back in such a way that the action people can and do take notice of them. These two stages - before and after the actual conduct of the research - usually get less attention than they deserve. This is unfortunate, since these are the points at which there is the greatest danger of the research and action drifting apart.

Research commissioned for the wrong reasons

Some pieces of research, though supposedly undertaken with the purpose of guiding action, do not really have any chance of influencing action. They are doomed, from the outset, to be ineffectual. There are many ways this can happen and I will describe a few so that the researcher, thus forewarned, can try to avoid such wasted effort.

One reason is, simply, vagueness. The educators feel that information of some kind would help them and they look to research to provide it. without ever thinking out clearly what information they want. If a researcher is given such a job, the best he can do is to assemble bits of information that he thinks might be useful. This information, by a lucky chance, might be exactly what the educators needed, but this is unlikely.

An example of this (not from Lesotho) concerns some research that was undertaken before a. radio campaign on family planning. The educators had already decided to use radio, and they asked for background information. From the report, it looks to me as though they never took their thinking any further, so a kind of research programme was carried out without anyone deciding what it was to find out and why. Some interviewers talked to a few people in a dozen market-places around the country. They found that people in one place seemed to like film music; somewhere else they liked folk music; somewhere else they listened to the news; and somewhere else they preferre d programmes in their local dialect. I cannot imagine that this was of much use to the campaign organisers. Almost certainly, it was not of enough use to justify several months of research.

People sometimes commission research without having any action problem in mind. Perhaps they simply like the idea of having some research done; they feel that it confers prestige. Or perhaps they think it would be interesting just to find out about something. If the research is not directed towards an action problem, not even vaguely, then the results are unlikely to influence action.

Another misuse of research is when people have a decision to make but, for some reason, they are reluctant to make it. They often call for more research into the topic, not because they really need more information to help make the decision, but just to postpone the decision making.

Probably the most common cause of. ineffectual research, however, is when the action, which the research is supposed to be influencing, is not in fact Open to influence. A project director might request an evaluation of the project even though he has no intention of modifying the project in the light of the results. Perhaps there is not even any possibility of making significant changes to the project. He is not looking to research to provide guidance; he is seeking reassurance.

Or someone might commission research to provide support for his point of view in a policy debate. Again, he is not intending to be guided by the research; he just wants it to confirm something he already believes.

One might argue that research, even though commissioned for the wrong reasons, will sometimes throw up findings that force people to change their minds - the people did not want guidance, perhaps, but the research has clear implications which they cannot ignore. It would be nice if this was true, but in my experience it isn’t. People who have made

up their minds are inflexible. Put yourself in the shoes of a policy-maker who is faced with a research result which suggests that he should change his policies. Either you can accept the research results and change your policies or you can keep your policies and ignore the research results. The second course is much easier.

The Lesotho Distance Teaching Centre's commitment to radio provides an example of this. International Extension College, who initiated LDTC, had coined the expression 'three-way teaching' to describe the combination of correspondence courses, broadcasting and face-to-face teaching that they advocated, and LDTC was established to explore the use of any available media for distance-teaching, so it was part of the original plan that LD TC would use radio. Early research suggested that radio ownership was fairly low (about 17% of households had radios in 1975) and that reception of the national radio station was poor. Nonetheless, when the first students had been enrolled for correspondence courses, several sets of radio programmes were written, produced and broadcast to accompany the courses. More than one evaluation survey over the next two years reported that the audience for these programmes was very small, even among LDTC's own correspondence students. If . research had influenced action in any straightforward way, LDTC would have reduced its radio work. But the commitment to radio remained and indeed increased. The radio section was expanded; more programmes were produced; an adviser on radio was recruited from overseas, and eventually a whole studio was built and equipped. People who like an idea are not easily put off it. :5:

Res earch methods

You might think that the logical way to design a piece of practical research would be to define the problem and then to select the most appropriate research method to tackle the problem. What happens in practice is a bit more complicated. You begin with an idea of the range of research methods at your disposal and,as soon as you are given the problem, you start thinking how you might tackle it. As a research design begins to form in your mind, you see the ways in which the problem needs. to be defined. You develop a research design to fit the problem, but you also define the problem to fit'the research design. The two parts interact.

In this section, I draw a quick sketch of the research methods that I am going to describe in more detail later in the book. Then I suggest ways in which, with these methods in mind, you can define

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h In all fairness I should mention some of the arguments That were put forward for building up the radio secflon. Radlo Lesotho had plans to Increase lTs Transmitting power; radlo ownership was likely to go up rather than down; and if was part of LDTC's job To exploit The educational pofenflal of radlo, so I? should continue This work even thou h The early results had been disappointing. But I think the example stll Illustrates my point: research results, even when They are clear, repeafed and nof In dispute, do not necessarlly Influence poIlcy 1n the way you might expecf.

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a problem so as to make it susceptible to research.
Observation is a research method. Before designing materials to teach basic numeracy at LDTC, we wanted to know what sort of calculations pe0ple were called upon to make in their everyday lives. We spent some time in village shops noting down the purchases that people made. We found that three-fifths of the shoppers bought just one item and that four-fifths of them spent less than 50 cents. To get an idea of the uses of literacy in Lesotho, we catalogued all the reading matter in a number of rural homes (with the owners' permission, of course). You could learn a lot about rural life from observing fields, gardens, crops, livestock, farm implements and so on.
Consulting records is another research method. LDTC used the official statistics on road accidents and traffic offences to assess the impact of a road safety campaign. In that case, the records were collected by another agency as part of its regular operations. You can, of course, collect records of your own. A correspondence college, for instance, generates a set of records in keeping track of its students' progress. .
Talking to people is, obviously, a basic research method. Social scientists distinguish broadly between two ways of doing it. The first way is that you hold something like an ordinary conversation, either with an individual person or with a group. You might ask certain questions to guide the conversation on to the topics that you are interested in, but the people are free to tell you anything they want to tell you in their own way. The other way is that you interview people with a questionnaire, reading out the questions: exactly as they are written and recording the answers in a systematic way. For example, if you wanted to know how many farmers owned oxen, you might take a sample of farmers and put the same question to each one, 'Do you own any oxen?' Then you add up the answers to find, say, that 20% own oxen. This second method is known as a social survey. A variation on this is to give people the questionnaire, or to send it through the post, and get them to fill in the answers themselves.
Experiments can also be used in1SOcial research. For example, if you wanted to know whether long letters of encouragement had any effect on correspondence students, you might arrange for some students to receive long letters and other students to receive short ones, and you would see if it made any difference. A special kind of experiment is when you investigate the feasibility of some idea by actually putting it into practice, perhaps on a limited scale, and seeing how it goes. This is sometimes called 'action research'. For instance, to find out if there was any demand for a radio magazine programme for housewives, you might broadcast one for a few weeks, to see what response it received.
There are other methods apart from these. Later in the book I will describe some specialised techniques for assessing instructional materials, for example. But these are the basic ones.
Different methods provide different sorts of information. In an

experiment, you alter things in some way in order to see what happens. With the other methods, you don't alter things, or at least you try not to;. rather you try to get a picture of the way things are. Methods which involve counting and calculating provide a picture in figures; they can answer questions of the form 'How many . . . . . ?' 'What proportion of . . . . . ?' 'What is the average . . . . . ?' Methods which don't involve counting, especially conversation and group discussion, provide a picture rather in words or images.

Defining the Questions for research

When people want some research on a problem, they often preSent the problem in a way that is not immediately susceptible to research. They tend to use vague phrases like 'investigate the feasibility of' or 'assess the effectiveness of'. But if there is to be any hope that they will use the results when they get them, they have to say more precisely what sort of results they want.

The first step in defining the research question is to ask them 'What do you want to find out?' Unfortunately someone who has begun . with a vague phrase is likely to continue with more vague phrases. A group of educators might request information on 'community involvement in education', for example. If you ask them what they want to know, they are likely to make more statements, using different words but equally vague - 'the concept of community-based schooling', 'the whole area of village perceptions of the formal school system', 'what goes on across the interface between school and community' and so on. People like talking in this way. It sounds good and it saves them the effort of thinking. But if it is not clarified, it leads to poor research. If the researcher doesn't know what the questions are, how can he find the answers ?

Another ploy is to ask people to guess what the results of the research might be. This forces them to think of what they might expect to get out of the research, and their answers might reveal more p-ecisely the questions that they are interested in. I gave the example earlier of . a vague piece of research that was conducted in response to a vague request for 'background information' about radio. If the campaign organisers had been asked,'What results do you expect?' they might possibly have given answers like these:

'I expect that only a very few people own radios. '

'I would guess that the news is the peak listening time. '

'I think people only listen for entertainment; if it sounds like serious talk, they will switch off. '

'I'm worried if only the rich have radios; it's the poor we really want to reach. '

Statements like these are a great improvement on a vague request for background information. One could begin to frame a research project around them, to find out what proportion of people own radios, how radio-owners differ from other people, which programmes people listen

to most, at what times most people listen, and so on.
If that fails, you have to make your own suggestions about questions that the research might tackle, making use of any hints you can pick up from their vague statements. To the people who were interested in 'community involvement in education', you might offer ideas along these lines: 'We can find out about the membership of school boards from records at the Ministry of Education. We can talk to a few teachers to see if they welcome parents' interest in the children's education. We could do an interview survey of parents to find out how often they visit their children's schools. Is this the kind of thing you want?'
If, despite your efforts, the research questions remain vague, you can sometimes do a quick piece of research to clarify the questions. This is known as 'exploratory research'. To continue the same example, you might visit a village school and talk to some teachers, in a very general way, about their contacts with parents and any other aspects of the relationship between the school and the village. You might then be able to identify more precisely the topics for more detailed research.
When you have made the research questions sufficiently specific, you can then put another important question to the people who are commissioning the research - 'What will you do if we find that . . . ?' (you insert your own guess of what the resultiwill be).
It is important to get people thinking about this early on. People who commission a piece of research are often unable to visualise what the results will look like. The danger is that, when they eventually get the results, they won't know what to do with them.
If people force themselves to face this question, they sometimes realise that the research results will make no difference. They have asked for research on a particular course of action, but they are not , seriously considering any alternative course of action; perhaps they cannot even imagine an alternative course of action. So the research is not really needed at all.
Thinking about this question also_prepares people for the possibility that the research results might not be decisive. Suppose that two people are preparing literacy materials for out-of-school children; they have different opinions abOut whether to expect parents to help their children with the materials. They will probably express their opinions in sentences like, 'I'm sure parents will take this Opportunity to help their children, ' or 'I don't think we can rely on their help. ' They commission a piece of research to find out whether or not parents help their children with reading and writing. Almost certainly, the research will find that some do and some don't. The result of the research will be a percentage, such as '40% (or 20% or 60%) of parents have given their children some help with reading and writing, and 15% (or 5% or 30%) have done so in the last month. ' If the literacy people can think, in advance, about what they would do with such a result, there is some hope that they will actually use the result when it comes. But if they commission the research in the hope of getting a 'Yes/No' answer

to their question and then they eventually get a. percentage instead, they may not know what to do with it.

Since part of the purpose of this book is to convince people of the usefulness of research in distance teaching, the point I am about to make might seem out of character. But there is a danger of thinking up so many questions that seem to require research that you prevent yourself from taking any action at all. Consider an organisation that is wondering about publishing an instructional booklet. What would be the best topic? How long should the booklet be ? What style should it be written in? Should it use illustrations ? What sort of illustrations ? Should it use colour ? Should it be sold or given out free ? If sold, at what price? And so on. You could spend years doing preparatory research for this one booklet.

You cannot research everything. In fact, of all the possible questions that you might think up, you can only research a few. Two pieces of advice follow from this. First, select those questions on which research can provide the most help. Second, don’t forget action research. If you wanted to find out if people would buy a booklet priced at 20 cents, the best research method would be to offer booklets at 20 cents and see if people bought them. Research does not necessarily have to precede action. An alert researcher, by arranging to gather data from an action project, can use the action itself as a research method.

Consulting documents and eerrts

In academic research, when you are heping to contribute to knowledge on some topic of general interest, it is well established practice to review previous work. For example, if you were investigating whether children of a certain age can or cannot grasp certain scientific concepts, it would be foolish to proceed with a research project without having consulted the substantial literature that already exists on this topic.

In practical research, the questions are usually more specific to the place, time and project that you are working on. What are the main cattle diseases in this country? What beliefs do these people have about types of food? How good is radio reception in the northern districts ? So there is not so much relevant literature that you have to consult. Nonetheless, even in a. small country like Lesotho, government departments and other agencies carry out many pieces of research, so you may find that someone else has already obtained the facts you want. At LDTC, for example, before we wrote a booklet on vegetable growing, we were able to use figures from the Ministry of Agriculture on the proportion of people who grow vegetables and on the types of vegetables they grow. When preparing a booklet on child care, we were able to use reports from.two health education projects on traditional child care practices.

If the problem is about the design of distance-teaching materials. or the organisation of a distance-teaching programme, the experience of other countries might be relevant. There are various agencies you

can write to for this kind of information; some are listed in Appendix 6. Try to describe precisely the problem you have or the sort of information you feel you need, perhaps enclosing background papers on your project. This will help them to locate material. that is really relevant to your research. There is a possibility that the people who answer your letter may not know any more than you do about work that has been done that is relevant to your problem, so they may just refer you to another agency or send you publications that they happen to have, which might be quite irrelevant. However, they do sometimes produce something useful, so it is worth making the effort to consult them.

In addition to international agencies, it is useful to establish contacts with colleagues in similar organisations in other countries. Peeple tend to be more honest in informal letters or telephone calls than in formal reports, particularly about mistakes they have made or awkward problems they have encountered.

On technical matters connected with research design, you might be able to consult experts in research and statistics, perhaps in the government statistics department or in the university. If you do need expert advice, it is better to seek it early on. If you embark on a badly designed piece of research and gather a pile of faulty data, there is not much that an expert can do at a late stage to put it right.

A word of warning about experts, especially statisticians. When consulted for a professional opinion, they tend, naturally, to be conscious of their professional status. They do not want to condone a research design which another expert might consider shoddy. So they are inclined to give you advice that comes straight out Qf the text-books. This can lead them to recommend a research design that is more ambitious than you can handle and more refined than it needs to be for your purposes. I am not suggesting that you ignore what they say. But you should be prepared to question their recommendations and discuss the research design with them, rather than just accept what they tell you.

Time and money -’

Educators generally need information fairly quickly. If a new college requests a survey of correspondence students to help it decide which subjects to offer first, it does not want to wait two years for the results; it needs them in a month or two. If a course writer wants to know whether to adopt this style or that style, he needs to know before he has written too much of the course.

It is important to be realistic about this. A social survey of the kind described in later chapters will take at least two moxiths and probably much longer. If this means that the results will urrwe too late, it may be better not to embark on it at all. You might decide not to do any research on the topic, or you might select a research method that will produce results more quickly. A quick piece of

research will probably produce results which are less reliable, less academically respectable, than a larger one. But rough results at the right time are much more use than elegant results that arrive too late.
As well as being short of time, the research departmeu: is often short of money. Here again, it is important to be realistic. A piece of research has to reach the stage of producing some results before it can hope to have much effect on action. If it is abandoned, for lack of money, at any point before that stage is reached, the money. already spent on it will have been largely wasted. So the researcher must be confident that the research he has designed can be completed with the funds available for it.
In order to design a piece of research with full regard to time and money, it is of course necessary to be able to estimate how much time a piece of research will take and how much money it will cost. This is not easy. To estimate the time, it is best, to divide the research into its different stages and to make an estimate for each stage. For an interview survey, for example, you might divide the research into questionnaire design, recruiting and training interviewers, fieldwork, . data processing, analysis of results, writing report. You estimate the time that each stage will take and then you add them up. Similarly, in estimating the money it will cost, try to think of all the separate items that will cost money, e. g. salaries of research staff, travel expenses, use of data-processing equipment, typing and printing of final report.
If you have little experience of research, ask the opinions of people who have done it before and revise your estimates accordingly. Then, when you have made the best estimate you can make, multiply it by l. 5 or even by 2. This might seem ridiculous, but people’s estimates (mine included) are almost always too optimistic. This is partly because you do not want a piece of research to take too much time and cost too much money, so you persuade yourself that it won’t. And it is partly because you assume that things will go smoothly, whereas in fact they never do.
With more experience you will get better at making these estimates..
Keep a record of the time and money that your pieces of research actually do take. This will provide the most reliable basis for making estimates of future research projects.