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ABSTRACT

The case study is the method of choice in studying instructional media projects. In contrast to experiments, which analyse the effect of a on b, and sample surveys, which ask "What is out there?", the case study asks "What happened?" and is both descriptive (unlike the experiment) and free of time (unlike the sample survey). The objective of a case study--to illuminate a decision or set of decisions--is ideal for instructional media projects. Researchers can enter a situation after the fact and benefit from their perspective in time. Central to the case study is the researcher who should bring to the situation historical and political science skills for a wholistic view. In case studies documents, interviews, observations, and secondary analyses are the main data sources; and researchers are urged to make greater use of documents, interview the right people, and make observations more objective. Addressing an audience and focusing on key decisions will help make a case study useful. Examples of both good and bad case studies of various types are appended. (WH)

# NOTES ON CASE STUDIES OF INSTRUCTIONAL MEDIA PROJECTS

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NOTES ON CASE STUDIES OF INSTRUCTIONAL MEDIA PROJECTS

If we may begin with a fanciful analogy, we can say that a case study is to an experiment as Gibbon is to Euclid or Newton.

Admitted -- the analogy is fanciful. Writers of case studies are more likely to resemble a thoughtful reporter than the historian of the Roman Empire. But, on the other hand, not many experimenters closely resemble either the author of the classic geometry or of the laws of motion. And within the limits of social research, the distinction is useful: an experiment abstracts life toward laws; a case study organizes the details of life in search of patterns and insights.

In our preoccupation with scientific method we have tended to treat the case study as a country cousin of the experiment, something not to be shown in public by an aspiring researcher. To take this position, however, is to ignore a rich source of knowledge, useful where more rigorously scientific methods have not been or cannot be applied, and a rich source of hypotheses for future testing. Other fields of learning have demonstrated its capability. The case study was the principal tool of Freud. It has been used almost wholly by cultural anthropologists to study primitive cultures. It has been used effectively in communication research by scholars like Merton (Mass Persuasion) and Cantril (The Invasion from Mars). And it has revolutionized the study of decision-making in fields like business administration.

It is, therefore, not a weak tool of social research, and deserves some attention.

Case studies and experiments

The case study differs in an important way from the experiment in purpose, focus, and method.

Experimental research exists to test hypotheses and contribute to theory. The case study, on the other hand, exists to systematize evidence so as to suggest hypotheses for testing and, pending that, to provide a basis of fact and insight for possible application to decision making.

The experiment, in almost every case, works with a situation that has been contrived and controlled by the researcher. The exceptions to this are the rare appearance of "natural" experiments, such as the diffusion of naturally occurring information which can sometimes be studied with quasi-experimental controls; and "field" experiments, which deal with an already existing situation over which less than laboratory controls can be maintained. Therefore, there is less than a sharp line between the controls an experimental researcher and a case study researcher can exert over the material with which he works, but in general, the distinction holds: in performing an experiment, one can decide upon the situation and so far as possible control the elements within it; in making a case study, one accepts the situation and tries to comprehend it.

Consequently, experimental research in its pure form must so far as possible exclude every detail, not controllable or measurable, that

is related to the cause-effect relationship being tested. Case study method, on the other hand, is inclusive rather than exclusive. It can afford to consider a large number of details, so as to consider their possible relation to a decision or a pattern of events. Its concern is not to exclude what it cannot command, but rather to avoid omitting some detail that might turn out to be important in explaining what happened in the situation being studied. Consequently, in the field of instructional media, an experiment tends to be a situation abstracted from a project; a case study tends to deal with a major decision, its genesis and its apparent effect, or, more often, with the reasons for, the execution of, and the apparent effects of an entire project.

The procedures of an experiment are rigidly directed and limited by experimental method derived from natural science. The procedures of a case study may include any systematic way of gathering and organizing data. A case is non-experimental but not necessarily non-quantitative. It may report and analyze experimental and survey data and relate these to decisions and other characteristics of the project. And there is little excuse, in the present stage of instructional media research, for a case study not to report and analyze cost figures.

Thus, in the Festinger-Katz (1953) taxonomy of research methods -- field studies, sample surveys, experiments in field settings, and laboratory experiments -- case studies fall in the first category, although they may report evidence from the second and third, and occasionally from the fourth, also. In the Selltiz dichotomy (1959) -- exploratory and descriptive studies, versus studies testing causal hypotheses -- case

studies are clearly exploratory and descriptive, although concerned with causation, and primarily analytical. To distinguish case studies from other exploratory and descriptive research, it will be helpful to consider their relation to sample surveys.

Case studies and surveys

The prime object of a sample survey is to establish reliability for a certain kind of descriptive data -- usually the kind that can be reported verbally by representative members of a population. Its methods are sampling and correlation. The principal objective of its analysis is to establish relationships within a population at a certain point in time.

Time is thus an important point of distinction between a survey and the other two methods we have been talking about. If a sample survey draws any conclusions about changes over time or the effect of some event, at time a, on another event at time a + x, it must do so inferentially. That is, it can describe the television viewing habits of children at two different ages, and infer that a given child is likely to go through corresponding changes over the same age period. It can describe the behavior of a sample of farmers at different stages of deciding whether to adopt a new agricultural practice, and infer that any representative farmer is likely to go through those same stages of adoption. It can infer that one stage always precedes another, and is therefore, at least in that sense, a cause of the other.

An experiment, on the other hand, is concerned with a restricted

and controlled segment of time -- between s, which is being studied as a cause, and r, which is being studied as an effect. It has tunnel vision, in contrast to the wide-angle vision of the survey. On the other hand, it can apply tests of inferential statistics to its cause-effect relationships, whereas the survey cannot; it can only establish, with correlational statistics, relationships at a given time.

A case study is centrally concerned both with time and with description. It seeks to record why a given decision was taken, how it was worked out, and what happened as a result. The decision may be one to establish a project -- for example, carry out an educational reform. A case study of any size will deal with a number of decisions taken in the course of carrying out the original decision, will describe the situations in which they were taken and the procedures involved in carrying them out, and the effects of doing so. It is therefore free to cover a wide time span and to describe a variety of situations and relationships. But (except as it reports survey data) it cannot describe with the controlled reliability of a survey, nor (except as it reports experimental data ) establish causal relationships over time with the controlled rigor of an experiment.

In everyday terms, a survey is concerned with "what is out there?" a case study with "what happened?" and an experiment with "what is the effect of a upon b?"

## The essence of a case study

There are at least as many kinds of case studies as there are

kinds of surveys and experiments. Yet, the essence of a case study, the central tendency among all types of case study, is that it tries to illuminate a decision or a set of decisions: why they were taken, how they were implemented, and with what result.

A case study is therefore an effort to contribute to policy and decision making, rather than to science. All these distinctions blur. An experimenter, for example, may read a case study to derive hypotheses for scientific testing. A sample survey is used by a political candidate as a help in deciding how to conduct his campaign. A cross-media experiment may be used to help decide whether to teach by television or face-to-face. But a case study is deliberately and centrally designed to illuminate a decision, a policy, and a practice, and it will be useful to the extent that a reader can relate his own decision problems to those described in the case.

A complete report of an instructional media project is thus almost necessarily a form of case study. Thus, for example, in reporting upon the educational reform in El Salvador it is necessary to go beyond the surveys of attitude among pupils, teachers, and parents, and the experimentally designed measurements of learning. The report will include these, and a great deal of other quantitative data on costs, attendance, production, retention of pupils, and so forth. But these must all be put into a framework which is relational and analytical and includes a great deal of description not derived from sample surveys, and much recording of events over

time not derived from experiment. Survey and experimental data are thus used to contribute to the interpretation of the whole project.

A case study, therefore, need not be brief, and need not be made -- as many such studies are -- in the course of a single brief visit intended to gather evidence vaccuum cleaner style. It may be short or long, superficial or in depth. Instructional media cases can be studied not only through retrospective data, but also over time. A modern researcher, equipped with quantitative research tools, may decide to watch the development of a decision or a project through a long cycle, in the manner of a case study, meanwhile gathering information through a variety of means, including perhaps survey and experiment.

Thus, a case study will vary in length and detail according to the level of decision making to which it is intended to contribute, and the level of understanding it is intended to serve. An example of an intelligent, but very limited, study is Lefranc's (1967) case on ITV in Niger. That study was made in one visit in 1966, supplemented, of course, by study of such documents as were available. It has been criticized for failing to note the flaw in the organization of the Niger project that later seemed to be responsible for its failure to develop into a national system, as had been originally intended. An example of a longer-term case study, in some depth we hope, will be the report of the French group of researchers who worked with the project for five years in Niger, and are now writing up their notes and data.

To say it another way, the essence of the case study is history

and policy science. The scientist contributes where he has the data, but the historian and the policy scientist are in charge.

Strengths and weaknesses of the case study

As a tool of decision making, the case study has certain strengths and certain weaknesses.

For one thing, it can enter a situation after the fact, and thus not lose valuable evidence. This is what Merton did when he decided to study the remarkable success Kate Smith had in selling war bonds with a radio talkathon, and what Cantril did when he decided to study an event that was not foreseen -- the panic resulting from a broadcast of a Hallowe'en play describing a fictional invasion from Mars. On the other hand, the ability to enter late is not always an advantage. All too frequently, a researcher enters the situation too late, when the early history has mellowed, some of the early problems and failures have been forgotten, and the skein of policy making can be restored only through the memories of men who have been too closely involved to be objective about it. One of the most common failings of case studies, when they fail, is too much reliance on project administrators. When one enters too late into the study of a project, or can devote too little time to it, then the administrators become the chief available custodians of information and one is unable to check up on their official recollections of what happened.

Nevertheless, the ability to cover a sweep of time is a real advantage in case studies. Consider, for example, the way that India's experience with the radio rural forum has been studied. The forum was first tried in 144 villages of Maharashta province, in a

ten-week pilot project in 1956. This was studied with some care, using an experimental design, and the report (Mathur and Neurath, 1959; Neurath, 1960) recorded a rather spectacular success. The participants were interested, they learned a great deal about the developmental projects that were the topics of the forums, and almost every experimental village reported that it had adopted several of the recommended innovations. On the basis of this trial, therefore, other states and countries could well afford to consider adopting the radio forums for their own rural development plans. And India decided, beginning in 1959, to extend the forums through the country, setting a goal of 25,000 for the next five-year plan.

If a case had been written at that time, it would have missed the main point of interest to development policy makers elsewhere. For when the forum program was expanded, certain very difficult problems appeared that had not been revealed by the pilot project; and the results were sufficiently discouraging to focus attention on the general problem of expanding pilot projects. A case study was written in 1966, and, with that time perspective, was able to illuminate some of these expansion problems. We shall say more later about that particular case study.

A sweep of time contributes greatly to perspective in instructional media studies. For example, it is a great deal more interesting to examine the record of the Japan radio-television-correspondence high school after six years than after its first year. Did the early popularity hold up? How did the student body change? What

record did graduates make? Did the costs rise or fall? What new problems arose as the school grew from an exciting innovation to an established institution? Similarly, while the report of the first year of the British Open University will be of great interest, a study in four or five years will be much more useful to other countries that might introduce the open university. The ability thus to record and interpret the history of a project is one of the real strengths of a case study.

The wide angle lens of the case study extends not only over time, but over space. It can deal with the project as a whole, rather than a part of the activity abstracted from the whole. What it loses in detail, it gains in breadth. Thus, it can deal with more than one or two interactive elements in a decision. It can reproduce the conditions with a fullness that will help a reader to decide whether he can relate that decision and its result to his own problems. In other words, a well-researched, well-written case has an air of reality that commends it to a practical policy maker.

The trade off, in a sense, is between precision and completeness, controlled abstraction and less-well controlled life. Obviously, a case study cannot give the assurance one gets from an experiment that its results are reproducible. One can never be sure that the decline of the Roman Empire might have taken another course, given one of the alternative decisions Gibbon describes. But on the other hand, it is no longer possible -- in fact, never would have been possible -- to experiment on the decline of the Roman Empire. It would have been possible to design an experiment on the expansion of a pilot project

like the radio forums, and it would have helped to have more than one such experiment, representing some sampling of what happened under different conditions. But these experiments were not done; let us hope that some day the elements of expanding a project that lend themselves to experimental treatment will be studied in that way. But in the meantime, and with a great deal less effort and cost, the case study method has stepped into the breach, taken a broad and realistic view of the situation, and presented an interpretation which is useful to other policy makers.

What aspects of an instructional media project lend themselves especially to case study, rather than experiment or survey? Not precise conclusions on causality, certainly. Not precise descriptions of a population. Rather, history and summary analysis of what happened. How policy questions arose, how they were handled and why. The organization and operation of the project. The financial history of the project, and the analysis of unit costs, operational and capital investments. These are not always easy to obtain, but they are the kinds of information one has a right to expect from a case.

Perhaps the greatest weakness of the case study is that it places an enormous responsibility on the researcher, rather than on a method. This is not to imply that an experiment is a mechanical task, that can be done as, for example, one changes a light bulb or the oil in his car. Far from that! It requires skill and hard logical thinking. But the experimental method offers a certain specificity and a certain organization of data that is of great support to the

researcher. The scholar who makes a case study has far fewer guides. He has less theory to go on, less guidance as to what data he should examine, no statistical analysis of variance to help him interpret what he finds. Instead of being encouraged to restrict his intake of information to certain comparable units, he is encouraged to range as widely as possible, collect widely divergent information if it exists. Whereas the experimenter is in position to manipulate his subjects, the case study man must necessarily deal with a number of informants who he suspects are trying to manipulate him. And when the process of gathering data is completed, the experimenter has his hypotheses, and the theory behind them, and some significance tests, and a long tradition of what they mean, whereas the scholar making the case study has only his own insights to depend on. The case will stand or fall on how well he organizes and interprets what he has learned, and how effectively he presents it to readers who can make use of it. When information is scant or contradictory, and when the reputations of real people and the policies of real systems are at stake, this may be a rather frightening responsibility.

Sources of data for a case study

The data for a case study comes mostly from documents, interviews, observation, and secondary analysis.

The stereotype of a case study as a "site visit" by experts is so pervasive that it may be well to point out that many case studies have benefited greatly by secondary analysis of quantitative data that is available but has not been analyzed in such a way as to contribute to the objective

of the study. This is true especially of cost data, which can usually be obtained in raw form but requires a great deal of processing. Enrollment figures, dropouts, progression, retention, are usually available but need to be analyzed and set in historical terms or against total costs. In studying one of the "open university" types of project in which correspondence study is combined with broadcasting, there is often need for a rather subtle form of analysis to determine a full-time equivalent figure so that comparisons with classroom teaching can be made. Even in a project where no "research" on effectiveness has been conducted, there is often data lying around which can be resurrected and analyzed in such a way as to get some idea of student performance. For example, in Samoa one case team was able to find old results of standardized tests that revealed what level the Samoa system had reached when the educational reform started. The raw data had been available for a number of years, but was never cited and never analyzed.

Because a case study team typically spends so little time with a project, it is usually impossible to do such things as establishing reliability among observations and among observers -- things a researcher would feel it necessary to do in order to obtain reliable quantitative data from observations. However, if observation promises to be a major source of information about a project, there is no reason why a visiting team cannot deliberately build it into their plans. The stay can be made a little longer, or the team can be made larger. The schools or other observation points can be sampled randomly within some appropriate stratification. And observation forms are becoming available on which

it is possible to establish observer reliability in a relatively short period of working together. For example, the Salvador form of analyzing classroom interaction has proved readily usable in Mexico.

Of course, a case study team usually spends the major part of its time en situ talking with people who have most experience with and most knowledge of the project. Typically, a study team tries first -- preferably before arriving at the location to be studied -- to agree on its interpretation of the pre-study information it has received and on the questions that seem most worth looking into. Then it usually meets as a team with its local counterparts, if any, ceremonially with the highest officials with whom it deals, and with those officials who have the broadest views of the project and who should not be made to repeat their information for individual members of the team. Then the team members usually fan out to areas of their own specialty. The economist, if any, spends much of his time with the financial officers. The broadcaster, if there is one on the team, spends his time with the persons who make the programs. The educators talk with the curriculum people and the local school administrators. And so on. The team usually begins to operate in a kind of accordion pattern -- looking into individual specialties during the day, then coming back together to report results and check with each other on additional questions to be investigated.

Needless to say, this is a delicate kind of operation. The study team is trying to obtain a wholistic view of the project from people who, for the most part, know one area of it very well but may

be much less well informed about other areas. The team is trying to obtain a balanced and objective view of the project from persons who, because of their own involvement and their own careers, are not likely to take a balanced and objective view, and in some cases may not want to encourage a close look at some part of the project. If the team were in residence for a year, it would be in better position to weigh the evidence. But a visit of a few weeks places a difficult responsibility on the study team to translate a number of individual viewpoints and sometimes contradictory pieces of evidence into a picture of the whole, with fairness to everyone concerned.

Coombs (1971) in a document prepared for teams undertaking case studies of educational development gave some wise, if idealistic, advice on this problem:

> "It must be expected," [he wrote] "that knowledgeable informants who have been deeply involved in the program may often, in all honesty, have a rather narrow and specialized view of it and an unduly optimistic evaluation of its performance. Obviously, their testimony is crucially important, for they are likely to have a uniquely intimate knowledge of how the program evolved, the problems encountered, changes in the initial plan, what has happened to earlier participants, etc. Yet to accept their story alone and at face value could result in a narrow and even distorted picture. In the extreme it could unintentionally make the case study a misleading propaganda piece, not a balanced and objective analysis. Therefore, it is incumbent on those preparing case studies to probe politely but persistently to get 'the other side of the story' and to develop additional evidence that will put the matter in a broader perspective.
>
> "For this purpose it will be important to interview a mix of people who see the program from different vantage points, including some 'hard-nosed' observers who know the program, see it in a broader context and have no direct involvement in its success or failure (such as well-informed analysts in the planning ministry or the

> finance ministry). In the end the authors of the case study will have to weigh these various judgments and the assorted evidence and reach their own considered conclusions.
>
> "It is important in reaching such conclusions and in writing the report itself to distinguish between 'hard' evidence, 'soft' evidence, and 'informed opinion', and between clear, firm, and well-documented conclusions and hypotheses or tentative conclusions (allowing room for possible alternative interpretations)."

What kinds of people must one be sure to interview? Obviously the people who have the best information. These will include the people responsible for the project and for different parts of it; the people who make the materials -- broadcasts, films, teachers' guides, workbooks, etc.; the people who use these materials -- teachers and students; and the people best able to observe -- researchers, inspectors, educators who have visited, critics, parents when possible, local government officials, and others.

To this should perhaps be added our own experience that it has always paid to interview the bitterest critics of a project, preferably before seeing the project itself. This may on occasion present a delicate problem of relationships with project sponsors and directors, but we have found that without hearing the chief criticisms in their most vigorous form, we have always felt uneasy as to whether we had looked hard enough at the evidence we could gather.

Perhaps the most undervalued source of data for a case study is documents. This is probably because of the unfavorable stereotype of a case study done by one man or a few men spending a short time "looking at" a project, coming to a quick decision, and reporting it.

But any conscientious case study team tries to assemble and read beforehand the chief relevant information in print, and tries during the visit itself to collect all possible relevant documents, along with suggestions of other useful sources, to read later. This is particularly important when the project is in an unfamiliar culture. We can remember, for example, how useful it was to read Margaret Mead's Coming of Age in Samoa, Keesing's volume on Elite Communication in Samoa, and an all but buried dissertation on the history of the Samoan educational system, among other things, before going to Samoa to look at that educational reform project.

Here are some examples of the kinds of documents that are likely to be useful:

Background -- histories (for example, no American who is not a specialist in Africa should be sent on an African case without reading at least a brief history of the peoples and nations of that continent); interpretations of the culture (likely to be as useful for a non-specialist going from the United States to a case study in Latin America as to an apparently more different culture like Polynesian or Chinese or South Indian); geography (a good map of the country in which the case is located always repays study); demography (census figures, age breakdowns, population distributions); economics (income and its distribution, occupations, national resources and budget); and descriptions of the educational system and the public communication system.

Official documents -- the laws covering education; parliamentary debates in connection with the reform; executive orders relating to the

reform; relevant official statements and public addresses.

Planning documents -- the national development plan and the budget implementing it; national educational plans, if any; reports of appropriate study or planning commissions (such as, for example, the Indian Educational Commission).

Documents on the educational system -- pre-project planning (for example, if there was a World Bank study before the project, it will probably include a great deal of useful economic data); organization charts and up-to-date descriptions of the system; data on private education in the area; enrollments over a period of years, including figures on dropouts and repeaters; descriptions of the curriculum and its objectives; enumeration of teachers, amount of education and training they have had, and the system of teacher training.

Documents on the project itself -- history, if available; organization chart, and changes in organization during the history of the project; statements of the goals and intended methods of the project (for example, the French volumes on the Ivory Coast project and the Bronson outline of the Samoa educational reform); organization charts (and previous organization charts) of the project; schedules both of producing and of delivering broadcasts or other materials; lists of equipment; descriptions, if any, of the workings of the project; copies of teachers' guides and of student work books; lists of textbooks, if any; descriptions and materials of in-service teacher training.

Audiovisual documents -- copies of broadcasts or films, if available, for more detailed study away from the project location.

Cost data in print -- education budget and project budget; list of capital expenditures, if available; previous cost analyses, if any.

Research data in print -- previous research reports, if any; summaries of test results if they exist; copies of feedback forms; testing schedules.

Popular treatments -- significant magazine and newspaper reports of the project; articles criticizing or evaluating the project.

Few projects are likely to be so rich in documents as this list implies, but a considerable documentary resource will be available in connection with almost any case study if the team will take the time to search it out and use it.

## A check list of content

The nature of a case, its setting, and its magnitude will affect the information to be gathered. However, a representative check list of content may be useful, and for the purpose we might take a hypothetical case dealing with an educational reform, involving extensive use of instructional media. For that sort of case, there would ordinarily be an effort to cover the following kinds of information:

1. The background

   -- the country, size, population, form of government, social structure, economic structure, languages, educational

system.

2. The project history

   -- the problems the project was supposed to solve; the key decisions, when they were made, why, and under what circumstances; how the decisions were implemented; what difficulties arose during the development of the project, and what changes were made in the goals or patterns of the project; how the project organization changed, and why; what was the schedule for assembling resources, training participants, and launching the project.

3. Organization of the project

   -- where it belongs in the larger educational structure; its internal organization, assignments, and lines of authority; what changes were made in the organization during the time of the project, and why.

4. Project inputs

   -- personnel required, training distribution, adequacy measured against needs;

   -- amount and kind of technical assistance, its use and adequacy;

   -- financial inputs: capital, operating, curve of expenditure over time, sources of funds;

   -- physical and technical requirements: buildings, equipment, transportation, etc.;

-- relation of inputs to country's other allocations of resources: to GNP and education budget, to supply of trained teachers and technicians, to development in such industries as electronics, etc.;

-- in retrospect, conclusions about adequacy of inputs, wisdom of devoting them to this project rather than others, likelihood of being able to continue project by means of own resources, etc.

5. Project throughouts:

-- the curve of project development over time; were the plans for this rate of development changed, and if so, why;

-- materials of the project: broadcast, print, other; their nature, number, content style; how they were produced, used, related to goals of project;

-- patterns of teaching: style, content, quality, strategies, relation to materials and to goals of project;

-- delivery systems: schedule of broadcasts, coverage, how non-broadcast materials provided, etc.;

-- support systems: utilization advice, in-service training, maintenance;

-- feedback systems: teachers' comments, student opinions, testing, observation.

6. Project outputs

-- what actually got through to the students (e.g., how many

man-hours of what kinds of teaching, etc.);

-- evidence of learning effects;

-- evidence of effect on attitudes;

-- evidence of effect on teaching;

-- evidence of effect on attendance and dropouts;

-- evidence of effect on student participation and activity;

-- evidence of effect on student aspirations, careers, and career plans;

-- evidence of effect on goals, objectives, expectations of school system;

-- evidence of effect on the wider community;

-- evidence of contribution to development plans.

7. Cost-effect analysis

-- distribution of costs; unit costs; what was bought for how much; cost of project as compared to alternative ways of solving problem.

8. Gross result

-- what has happened, what is likely to happen to the projected reform; is it likely to continue when direct foreign assistance terminates.

9. Analysis

-- why results were as they were;

-- reconsideration of key decisions taken vs. other possibilities;

-- how the accomplishment measures against the goal;

-- the investment in retrospect: was it worth making, and could it have been better distributed or directed;

-- how the results of key decisions and strategies in this project compare with those in other projects of similar type, and what conclusions can be drawn from this comparison;

-- summing up local wisdom: what would the people who have been closest to the project now do differently if they had another chance;

-- integration of the conclusions: what can be learned from this experience.

Suggestions for making a case study useful

At the cost of occasionally repeating, we are going to make a few suggestions to case study teams.

1. Write it for the audience.

A case study, as we have indicated, will find its chief practical use among policy planners or administrators (or future planners or administrators) who can use it as a guide to policy and practice. Therefore, it goes without saying that such a study should be readable by persons who are not fluent in social science or economic shorthand.

2. Focus on key decisions.

The planners and administrators who read the case will be faced by decisions more or less similar to those in the project described. They want to know why the key decisions were taken, under what circumstances, with what results. For example, when Samoa decided

to introduce ITV in all grades at once, rather than one grade at a time, it made a fundamental decision required of all countries that introduce television in a major way. What led the Samoa planners and administrators to take the decision they did? Were the conditions and pressures special in any way? What happened as a result? In retrospect, was it a good decision?

3. Relate the decisions in a particular case, where possible, to corresponding decisions in related cases.

For example, of the countries that used television as a prime mover in educational reform, Samoa was the only one that decided to introduce it in all grades at once. Why did Niger and El Salvador and the Ivory Coast decide to introduce it one grade at a time? Were their conditions essentially different from those in Samoa? How do the results compare? What we are saying is that it is not necessary, not even desirable, to treat each case as an isolated study. Viewing it against the results of other cases will add important dimensions of richness and usefulness.

4. Try to describe as fully and clearly as possible the elements in a decision situation.

This precept is too often honored in absentia. We have spoken of the Samoa decision. Consider also some of the decisions in Niger: to send a French production team in to be chiefly responsible for making the programs; to use relatively untrained monitors rather than trained teachers in the classroom; to try to produce programs that would encourage a high level of activity among the pupils. The reader wants to know who took those decisions, and why. For example,

what were the alternatives to sending in a French team, and why was it decided to do that rather than, let us say, training Niger people to do the job? And what can be said pro and con of that decision in view of what happened in Niger? What lay behind the decision to use monitors? If, as one can easily imagine, it grew out of a shortage of trained teachers or a desire to save money on the cost of training teachers, what considerations kept the project directors from using a comparative design -- monitors in some classrooms, teachers in others? More important, what did the monitors do? How did they teach? What was their responsibility, compared to what would have been expected of teachers? And how did it work out? In the case of the programs, a reader wants to know a number of details: exactly what were the programs like? how were they made so as to encourage activity? what kind of activity? what went on in those classrooms? and what was the effect on learning?

The reader of such a case study needs enough relevant details of these kinds to let him relate the decisions to his own situation.

5. Maximize the reliance on hard data and precise measurement.

We have already said that there are usually more hard data available in any major project than most case study teams find, and that very often a secondary analysis will add a great deal to the report; furthermore, that it is not at all impossible to substitute more precise and quantifiable observation for the usual informal observation by an individual expert. The addition of cost figures to a case study is something that no longer needs arguing for. We

have come out of a period when cost analysis was introduced into very few case studies, through a period when its importance was recognized by amateurs in economics who did amateur analyses, into a period when the usefulness of a professional economist or cost analyst on a case study team is widely recognized.

6. Make clear which conclusions and interpretations rest on hard data and confirmed judgment, and which are "softer".

Some years ago, it was common to write case reports either in the form of supposedly objective and factual reporting, rigorously purged of conclusions and interpretation, or in the form of professional judgments, scarce in specific evidence but strong in the mystique of professional expertise. In the field of instructional media cases, at least, it is now safe to say that both those approaches have gone out of date. One wants more than reporting, and one wants evidence for interpreting facts and events. For that reason, it becomes all the more important to be candid and explicit about the level of trust a reader can feel in what is reported and the conclusions drawn therefrom.

7. Maximize the use of local experience.

Reliance during a short visit on the persons who know the project best is a two-edged sword. It may open the way for those persons to make a good case for what they have done. On the other hand, an investigator can multiply his own efforts many-fold by making use of the funded experience available on the scene. His problem in using this experience is what every investigator faces in gathering evidence, and there are familiar

ways to check one experience, one conclusion, against others. This kind of checking will require the case study team to consult more widely than in administrative or official circles, and to seek out witnesses who are experienced and well-informed, but have no need to defend the project or, for that matter, to attack it.

8. Stay a little longer.

Probably no case study team has ever left a project completely satisfied that it has learned all it wants to know. Probably a team never will leave a case study site completely sated with information. But the longer it stays, the more opportunity it has to talk to the persons who were not in residence in the first week or two, observe what could not be observed in a hurried visit, and collect data which either did not come to attention or could not be gathered in a short time.

The curve of a visiting team's efficiency falls off sharply after two or three weeks, and the pull of other obligations grows notably stronger. But there is an answer to that, too. Some teams have found it very helpful to return a second time, after the data from the first visit have been analyzed and evaluated, and the gaps in the information or the conclusions have become evident. Sometimes the second visit is scheduled for a time when the results of certain decisions can be more clearly seen, for example at the end of a school year when academic results become available. Given the current, well-founded dissatisfaction with hurried, impatient case studies, it is entirely possible that the pattern of making a case study with two or more visits, separated by months or even a year, may become common.

9. Consider alternative causal patterns.

When a field researcher performs a quasi-experiment, he has a special obligation to consider alternative explanations for the effect he discovers. When he makes a case study, where causality is even harder to prove than in a quasi-experiment, he has still more reason to consider all the elements in the cause-effect relationship. He reports a decision and the supposed result of it. But what other elements and forces might have helped bring about that result? Samoa introduces television in all grades at once. Some results seem to be evident. But can we be sure that introducing ITV in this way was the only, or even the chief, reason for the troubles that followed that decision? Could it have been partly the nature of the school system, or the nature of the children, or the level of training of the teachers, or the kind of television that was introduced, or the changes in curriculum, or the fact that for a while two grades used the same television? These are very important questions for any other planner or policy maker. And consequently, before a case study team reports that X, Y, and Z happened as a result of decision A, it has a moral and professional obligation to try to eliminate, if possible, some of the alternate causes; and to indicate the degree of confidence it feels in the causal pattern it reports.

10. Do case studies, where possible, in related groups.

The problem of matching cause to effect makes it all the more attractive to plan case studies in groups of comparable projects. For example, Hirschman spent a year studying a number of World Bank

projects, not with the idea of reporting a mass of details on each of them, but rather looking for common problems and common principles. He reported his findings in Development Projects Observed (1967) where he was able to deduce a number of principles about the special kind of investment we call a development project, and the characteristics of a relatively successful project. Incidentally, one of the commonalities he observed about the set of projects that both he and the Bank regarded as among the best was that "not one of the projects...was free from serious problems." The way he went about this study left both him and his readers considerably more confident that the conclusions he drew and the propositions he advanced were not accidental or limited in their application.

We hope to do something similar by studying in one group the chief uses of ITV for educational reform; in another group, the chief uses of broadcast plus correspondence (the "open university" or "everyman's school") to extend education beyond the classroom or the campus; and in still another group, some of the chief instructional uses of radio as a lower-cost alternative to television. By examining projects thus together, we hope to be able to speak more confidently about characteristics of the particular educational strategy, rather than the characteristics of a particular use of it in a particular place.

Some types of instructional media case studies

The range of case studies in this field is from a brief study by one man of a project where information is very scarce, to a team study

of a project which has been constantly researched and where a great amount and variety of information is already available on paper. In the former case, the product is something like the article that might be produced by a competent reporter who stops by the project for a few days; in the latter, the case becomes, in effect, an overview of the entire project, a thoughtful interpretation of what was done and what was learned. Perhaps some examples may help.

A study where information is readily available. In the autumn of 1971 a case report was written on the educational reform project in El Salvador. This project has been under study by a research team since it began, in fact since before the television went on the air or the new curriculum was introduced. In addition to measures of learning, attitude, and classroom interaction, there had been a complete cost study and a continuing study of administrative history and practices. The case study, therefore, represented an overview of the project and the findings at this particular point in the project history. This study illustrates very well that the case study form is still useful and appropriate when it is based on something more substantial than a short period of interviews and observation.

The 70-page case study begins with some background on El Salvador: area, population, language, government, literacy, occupations, the educational system and the steep pyramid of enrollment (only one in six children who enter the first grade goes as far as the seventh). Then it turns to the origin and background of the educational reform. In El Salvador the use of instructional television for educational reform

was already being discussed seven years before it began. The first feasibility study was made five years before the reform, and two other such studies, all in general agreement, were done before the project was financed. An active ETV Commission in El Salvador, the World Bank, AID, UNESCO, UNICEF and several other governments all made contributions to the planning and preparation, but finally it was serendipity, more than anything else -- the fact that the President of El Salvador was at Punta del Este when President Lyndon B. Johnson proposed the idea of an ITV pilot project in Latin America -- that made the reform possible.

The study then takes up the extensive activity that had to take place between acceptance and realization of the reform. The Ministry of Education was reorganized. The curriculum was revised and modernized. Every teacher who was to work in a classroom with television was given a year of retraining, both in the substance of the new curriculum and in new methods of teaching. New study materials were prepared for the classrooms. Supervisors were trained to be advisers rather than inspectors. A research evaluation team was installed. Schools were modernized, and a building program begun. Television producers and technicians were trained, a studio equipped, and some programs recorded on tape.

Then the case study describes the organization adopted for ITV in El Salvador, the television schedules, how the programs were made and used, and the problems with inadequate studio space.

The next ten pages are on the costs of the reform: total

costs, year by year costs, sources of funds, ITV costs. Production in Salvador costs about $1,300 per hour, or $720 when averaged over three years, taking into account the necessary remakes. Television presently adds about 15 per cent to cost per student. Costs are projected into the future, and estimated for possible extension to primary school and to out-of-school education.

On the basis of the psychological and social research evidence, tentative answers are provided to such questions as: Do pupils learn any more from the new program? How much does television contribute to this learning? Has the reform affected the quality of teaching? What has been the effect on dropouts and on promotion? Does the new system equalize opportunities, or the reverse? What is the effect on student career and educational aspirations? What are the attitudes toward reform and toward ITV?

The case study turns then to comparing the policy decisions taken in El Salvador with those in other countries that have introduced educational reforms built around television, and summarizes the interim conclusions from Salvador and the others on the effect of these decisions. The concluding pages are thus a summary of what seems to have been learned from El Salvador's experience in light of comparable experience elsewhere.

The El Salvador case is thus an example of an uncommonly full case report, based on an uncommon amount of available hard research and administrative history. It was written by the head of the research group who had been studying the project for over three

years. Inasmuch as the other members of the team participated in the work that went into the study, and read it critically in manuscript, one might say that the study represents something over seven man-years spent trying to understand and evaluate the project that was the focus of the case. Needless to say, this is *not* the way *most* case studies are made.

A one-man study where information was scarce. Let us, therefore, turn to a study at the far end of the case study continuum. This is a report by Kimmel (1971) on New Zealand's use of instructional television.

The study was made by the author, a member of an educational research and training institute in Washington, D. C., in a little less than two weeks, during which time he visited three principal cities of New Zealand. Little documentation and virtually no research were available, and the chief sources of information were officials of the Ministry of Education. The chief source in print was a paper by a New Zealand educator on the radio-correspondence courses, published by UNESCO in 1967. Probably because this part of the program was covered in greater detail by the 1967 paper, Dr. Kimmel spent more time on the school broadcasts.

His ten-page paper begins with a brief account of the New Zealand educational system, followed by two pages on the history of educational radio in that country. He describes the schedule of broadcasts (about an hour a day), and then takes up the foggy question of how many schools and correspondence students use the

programs. The one piece of evidence that appeared to be available was a questionnaire survey to which 95 schools responded, suggesting that the range of use for different programs was from 6 to 28 per cent, with the median around 10 per cent. There seemed to be no hard evidence as to use of the programs by the correspondence students, who had no teacher with them to decide whether the educational broadcasts should be tuned in. Nor was there any real evidence of the effects of the programs, which is studied, the author says, by "questionnaires, in-service teacher training exercises, school visits by the production staff, and surveys of members of teachers' organizations." Costs? The annual budget of the educational division of the New Zealand Broadcasting Corporation is $70,000; "although no figures are available," the author says rather ruefully, "the estimated cost of producing a single program is $100."

It is evident that this case study must have been a frustrating experience, and the result was the kind of study that is useful only as a first look -- for ascertaining what New Zealand is doing with instructional radio, without understanding it or its effect very deeply.

What could have been done, given the apparent absence of research and documentary evidence? Perhaps nothing, and we are not meaning to imply that Dr. Kimmel should have done any more than he did. Yet the problem of how to handle a situation where the

evidence is so scant is a common problem, and we can well spend a little time on it. It is possible that one or two things might have been done to enrich the case of New Zealand beyond what finally came out. One might have added members to the team with specialized knowledge, in order to look at more specialized questions. For example, an economist might have been able to dig out some useful cost figures. Another possibility would have been to focus the case on some smaller and more interesting topic than the whole of New Zealand's instructional radio. If, for example, the visitor or his team had chosen to concentrate on the home radio-correspondence students, and add to the contribution of the 1967 report, he might have been able to visit a sample of the homes where these students are working, or to collect some data on how many had graduated from the correspondence course and what success they had in later education, or perhaps to study New Zealand's technique in combining radio with correspondence material.

We are going to conclude this paper with examples of how these two things were done in other cases where the information was little, if any, more promising than in New Zealand.

A three-man case study where information was scarce. In 1966 a case study team, made up of an American media researcher, a Latin American educator, and a European economist who had lived some time in Latin America, went to Honduras to look at the church-sponsored radio schools of that country, which are modeled after

the Radio Sutatenza program in Colombia. This team also stayed a little less than two weeks, and wrote a report only a little longer than the one on New Zealand. They too found that research was almost non-existent and very little information was available on paper. But they got more data out of the experience, due, very possibly, to the varied makeup and the size of the team.

The economist dug into cost records, and developed at least a rudimentary estimate of what the radio school actually cost, in total, and per student. The educator and the researcher investigated the administrative arrangements and assembled estimates of the audience served by the schools over a period of five years, the number of students who took the examinations and the proportion who passed. The team leader uncovered the only known piece of research on the effectiveness of the schools -- 108 interviews with former students. The educator examined closely some of the final examinations given by the school, and concluded that the officially estimated proportion of passes may be doubtful.

This is fragile evidence, and not much evidence, but it advances our knowledge of these radio schools substantially. For the first time in print, the study provided an estimate of cost, audience served, and at least some evidence that students were learning. In addition, the case report included a discussion of some of the factors making for success or failure of the program. Thus the result was more than a casual reporting job; it threw a little light below the surface.

A focused study. Just as a team study has certain advantages over a one-man study, a focused study, when information is scarce, may have some advantage over a general study.

A focused study was made in India in 1966 by an American researcher and two Indian associates. The researcher had gone to India to find out what had happened to the radio rural forum since the pilot trials of the forum, ten years earlier. Those trials had been a rather sensational success, and had been reported in a book by Mathur and Neurath, as we indicated earlier in this paper. But very little had been reported since. When the American got to India he discovered that a great deal had happened. After several years of delay India had decided to to expand the forums over the country, and had set an initial goal of 25,000 forums to be established in five years. This goal had never been reached -- in fact, the number had barely reached half the goal. There were murmurings of dissatisfaction with the forums.

Recognizing a problem of practical import when he saw it, the researcher decided to focus the study, not on the forums in general, but on the attempt of India to expand them nation-wide. What exactly had happened? If the expansion was no more successful than rumored, what had gone wrong? And what could other developing countries learn from the India experience? This was a more interesting and in some respects an easier task than the general kind of study done in New Zealand, because it permitted the researchers to

focus their efforts rather than diffusing them, and to organize their findings around a question that was certain to attract interest.

The American researcher associated two Indians with him in the case study. These were a rural broadcaster and a rural extension specialist, both of whom had been associated with the early history of the radio rural forum. Together they managed to put together an accounting of the number of forums that actually had been established in each state since the goal of 25,000 had been set (the figure was 12,776, of which several thousand were apparently inactive). From cost records they made an estimate of the total budget put into the forums, the cost of establishing an active forum (a little over $100 if 500 were established, about $75 in groups of 2,000), and even the cost of getting one action project accepted (about $37 if each forum adopted two such projects a year, about $10 if each forum adopted 10 projects).

In addition, they found six unpublished evaluative reports on the forums. None of these was very rich in data, but each one contributed some evidence, and one of them contained very useful findings on the number and kind of action projects adopted by the forums in each of five states during 1963. Furthermore, because the studies were done in different parts of India, they could be used to some extent to check whether what was happening seemed to be a national or a local phenomenon.

On the basis of these data, plus visits to some of the presently active forums and discussions with their leaders and members, the case study team was able to put together a considerable amount of material that had never been in print before, and more important, to write a section on "Lessons to be learned from the Indian experience." The most important of these was that a country must work as hard to expand a pilot project as on the initial project itself.

In conclusion

It is clear that there are ways to improve case studies. Yet we feel that the case is a useful form in which to study instructional media. A case study is not something one does instead of a field experiment on a significant project or problem. The case form is especially useful, however, in making known the facts about a project before it can be studied extensively by more rigorous methods. And even if we were able, say, to double the number of experiments and quasi-experiments we can do on instructional media projects in the field, still case studies would be useful because of their realistic and wholistic quality -- the fact that they can report on a project as a whole and put separate findings into context and proportion.

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