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The nature of evaluation

Chapter 1

Formal evaluation

Evaluation then is an activity with which everyone is familiar. The question is, how you can best use evaluation with open and distance learning provision. At the informal level, individual members of any institution will be actively engaged in making their own personal evaluations of activities which come within their own areas of responsibility. The problem will be that, as with all other spheres of life, individuals' perceptions will be coloured and distorted by the particular lenses through which they see the world. We can only make an evaluation on the basis of the information to which we have access. The conclusions that we reach will be limited by the quality of that information – its comprehensiveness, relevance, up-to-dateness, accuracy.

A more structured approach

One way of looking at the process of evaluation is to view it as a series of different stages. The stages which comprise this cycle are shown in Figure 1.1. It should be emphasized that reality is usually much more untidy and idiosyncratic. Some stages may be omitted, and the sequencing may not always operate as shown. The old joke about deciding what the conclusions will be before carrying out the evaluation does, as is often the case, carry a grain of truth. For example political pressures may result in stage 7 actions being agreed on political grounds before the evaluation findings in stage 6 are available (a frequent habit with government departments).

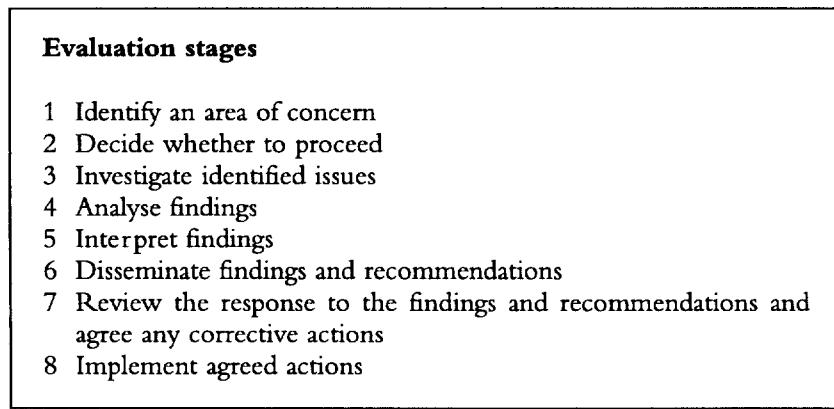


Figure 1.1 The basic stages of evaluation

with a course. Help the course team pinpoint the precise sources of students' problems computer analysts were carried out on complex quantitative data in order to help the course team identify the specific interests and institutional requirements of those carrying it out. I have known examples where the teaching team to higher authorities; I have also seen examples where weeks of sophisticated written comments presented as a report from the teaching team to higher feedback data was limited simply to a one-page summary of students' carryout of the analysis. The extent and depth of the analysis will depend in part on the technical competence and depth of the study devised and carried out for the evaluation, the data collected need to go through some form of analysis stage. The extent

recommendations and

Analyse Findings

establish the scale of any particular problem areas. Usefully approached using a mixture of in-depth discussion to establish the usefulness of an issue such as the quality of guidance to tutors may be evaluation of a problem. For example, the determination by the requirements of the problem, whether possible, be ways in which issues are investigated should, wherever possible, be determined by the tutor's themselves, plus some quantitative feedback to evaluate the scale of any particular problem areas.

Investigate identified issues

The ways in which issues are investigated should, wherever possible, be further, or whether to commit resources for a thorough evaluation. Having a sufficient high priority to warrant further investigation. A decision will therefore need to be taken about whether or not to investigate Not all problems or potential problems which are identified will be seen as having a sufficient high priority to warrant further investigation. A decision will therefore need to be taken about whether or not to investigate further, or whether to commit resources for a thorough evaluation.

Decide whether to proceed

for the evaluation cycle may therefore operate in a variety of ways. Political pressure than the process of objective review. The trigger for the evaluation cycle may therefore operate in a variety of ways. probably think of just as many if not more instances where the evaluation process has been triggered by extreme requests for data or because of grant awarding purposes. If you think of your own institution, you can probably think of certain types of evaluation for external auditing, review or certification data or certain types of evaluation for accreditation, review or example. Or again there may be an institutional commitment to provide a specific project or innovation, such as the use of interactive video for a specific result in processes within the organization for the evaluation of concerns may result in pressure within the organization for the evaluation of formal means such as letters of complaint, or anxieties expressed by staff can lead to the recognition of the existence of possible problem areas. Cost information procedures such as reviews of pass rates, or course registration figures often identify situations which should be giving cause for concern. Formal monitoring procedures such as reviews of pass rates, or course registration This stage can be triggered in a number of different ways. Formal

Identify an area of concern

Interpret findings

The more sophisticated and complex the study, the more important is the interpretation phase. The same set of analyses may well be interpreted in very different ways depending on the particular perspective of the interpreter. A high difficulty rating for a course module may be interpreted as evidence that the teaching approach needs further investigation and possibly some revision, or it may be taken as evidence that the students are insufficiently prepared for the course.

Disseminate findings and recommendations

The dissemination phase can be key in determining whether or not the evaluation findings are used. The timing of the dissemination, the target group for the findings, and the perceived relevance of the findings to people's concerns will all need to be taken into account. For example, the importance of variations in student retention rates may be different for those responsible for ensuring the viability of future courses than for administrators responsible for ensuring adequate provision of exam rooms. The same set of information can carry very different messages to different groups. Increased student retention rates may be good news to some staff in an organization, and a mixed blessing to others.

Review findings, agree and implement corrective actions

These final two stages do need to be seen as part of the evaluation process. Evaluation is not an abstract research exercise but an essential tool of good management. In general the methodologies for the design and implementation of evaluation studies are well developed, but the methodologies for enhancing the likelihood of organizational use of evaluation findings is still developing. Hence the importance of recognizing that these two stages must be included in the cycle.

The purpose of evaluation

The aim of evaluation in the case of any organization must be to support that organization in achieving its goals. In other words, to enable it to become a more effective organization within whatever constraints it has to operate. In educational organizations, the need for formal evaluation activities is usually clearly recognized. In their 1977 review of major evaluation studies, Guttentag and Saar drew attention to the fact that 'education is one of the most highly researched evaluation fields' (Guttentag and Saar 1977).

The learning organization

Evaluating learning corrective forward arguments the revised modifications

For example, learnt things sharply through this phase with the result that is then attempted without some level in assignments standardizes all aspects of problem solving.

Programme evaluation

Program evaluation underlines focuses management training and accountability

I have grouped some students in an area particularly

With a number of contributions at the top

tion at key points. The question then is how to determine what the key contribution. However, business is no substitute for purposeful intervention. Within any institution it would be a simple if onerous task to list large numbers of possible issues to which evaluation could make some particular teaching medium is used.

In an area of expertise, or it may be that a particular audience is targeted, or a student who successfully complete a requisite number of courses some sort of common aim. That aim may be the award of a qualification for groups of courses. Usually, these would be sets of courses which share I have chosen the term 'programme of study' to describe sets of

and accountability have to be exercised.

training. It is usually here that responsibility for the detailed issues of quality management and often the financial responsibilities lie in education and focuses on programmes of study. It is at this level that the pedagogic, underdeveloped. By programme evaluation I mean evaluation which I have chosen the term 'programme of study' to describe sets of

Programme evaluation

problem is found to be sufficiently widespread or severe. In all aspects where the institutional procedures may have to be modified if the standards, the course approval strategy and the course testing strategies are assignments which students are expected to complete, the monitoring of level implications for this state of affairs. For example, the number of out some of the student study tasks. However, there may be institutional attempt to deal with the problem by changing the assignment or by cutting that is the case, then the person responsible for the course will probably with the difficulty of the assignment or the course workload at that point. If this phenomenon which would have to be investigated. It may be to do sharply at a certain point. There are a number of possible explanations for learnt that the submission rates on assignments for a particular course drop For example, individuals or small groups such as course teams may have modifications.

the reviews of performance and the implementation of subsequent argument is the view of the organization as a unit or a whole in respect of forward by Argyris and Schön (1978). An important feature of their correction of error is the basis for the ideas on organizational learning put learning organizations. The importance of the role of the detection and evaluation is used, or should be used, to enable institutions to operate as well be interpreted as the target audience may be interpreted as

The learning organization

points are – how are we to identify the purposes of evaluation in such a way as to achieve the best match with the goals of the institution?

Diverse institutional goals

The overarching aims of a provider of education will be related to the provision of learning opportunities and to such associated activities as the accreditation of learning. But such global aims can also contain a diverse range of subsidiary goals. In an earlier work I discussed the different types of goals that learning providers can hold (Calder 1993). Four distinct groupings can be identified:

- society/economy centred
- institution centred
- subject centred
- learner centred.

The society/economy centred goals refers to the skill centred education and training which both public and commercial providers are increasingly encouraged to offer. Institutional goals can include institutional survival; high status among clients, other providers or funders; or public recognition. Providers may also hold 'subject centred' goals, by which I mean claims to scholarship and the desire to provide courses of a high academic quality. The learner centred goals emphasize the personal development aspect of learning and the need for learners to achieve not only subject knowledge and skills but also more sophisticated learning strategies and such intangible outcomes as self confidence, recognition of self worth, and a commitment to the community.

You may have noted the absence of student performance from the list. In the UK, the assessment of student performance is referred to by the term 'assessment'. The term 'evaluation' refers primarily to the evaluation of the teaching and organization activities which support student learning and includes the assessment of student performance as just one aspect or function. However in his book on the assessment of students, Rowntree highlights the fact that assessment and evaluation are often treated as 'virtual synonyms'. As he points out, there are many countries, including the USA, where the term 'evaluation' is used to describe both the assessment of individual student performance in terms of what they have learnt or accomplished and the evaluation of the teaching and other organizational activities which support student learning (Rowntree 1977). In fact some institutions use the term 'evaluation' solely to describe the assessment of student performance.

Needless to say, such differences in the way the term is used can on

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We have discussed the fact that evaluation is a process which can be utilized across the whole range of activities in an educational institution. The

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Approaches to evaluation

Even where the evaluation is conducted internally and carried out internally, there may still be greater differences in its nature. Consider for example, a situation where the quality of the teaching received by students is being evaluated. If the aim of the evaluation is to assist with staff development, then its nature will be rather different than if its aim was to collect data to use for staff appraisals. This particular example is an important one because many staff have relatively little experience with open and distance teaching, and are frequently unaware of the rather different needs of home-based or distance students from those of conventional students or trainees. Certainly the system of student feedback on teaching used by many providers for assessing face-to-teaching can conflict with the need to use evaluation for staff development purposes.

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What Kogan was drawing attention to was that evaluation is not a clear-cut strategy for evaluation to work effectively. Rather the primary purpose of the evaluation and the particular interests of the sponsoring group initiating the evaluation and whether they be managers, political leaders, client groups, or the working conditions; and it will also vary according to its sponsors quality, reduction in cost, equalisation of access, or improvements in intervention is primarily directed to, for example, improvements in intervention is primarily directed to, for example, improvements in workers who are subject to the evaluation.

The nature of the evaluation will vary according to whether an evaluation is determined when he commented that Kogan (1989) described well the complexity of the way in which the nature importance in determining the purpose of any particular evaluation activity. The particular interest group which sponsors the evaluation is of particular

Diverse interest groups

In this book, I will stay with the UK meaning of evaluation. In this book, I will stay with the UK meaning of evaluation. by failure to check on the definitions of apparently common terminology. usage of the same term can be enlivened by the misunderstandings caused between professionals from contexts separated by different traditions of occasion lead to considerable confusion. Discussions about 'evaluation'

multiplicity of approaches on which it can draw matches the multiplicity of activities with which it can help. One way of looking at these different approaches is to consider the fundamental purpose of the evaluation.

Summative and formative evaluation

Summative evaluation

Where the intention is to form a judgement or conclusion about either the absolute or the relative merits of whatever is the focus of the evaluation, this would be seen as summative evaluation. Scriven (1967), who first advanced the distinction between formative and summative evaluation related it to the effectiveness of the instruction or teaching. It could equally well be used in relation to judging whether a teaching component or some aspect of the student support system has worked as intended. A public examination is another example of a summative evaluation of the candidates' knowledge. Summative evaluations are generally used in order to compare the success of different approaches in achieving a particular goal, or meeting a particular need. Consider the following comment by Nigel Paine (1990) who reviewed the final report of the Open Tech Programme development review:

I wanted to know the answers to some very basic questions:

- how much did it cost?
- what did it achieve?
- what lessons were learnt for the future?
- is this kind of development programme a model for us?

The approach being taken here was very much a summative one. In fact, as Paine pointed out, the development review had been carried out with a distinctly formative focus. This meant that although much of the information needed for a summative evaluation was available, it was used, interpreted and presented with a development focus.

Formative evaluation

Evaluation is formative when it is used with the intention of developing or improving the functioning of an activity or the effectiveness of a component. Testing of instructional materials during their development in order to identify areas where improvements might be made; trials of systems in order to iron out the wrinkles before adopting them fully; reviews of monitoring data carried out in order to identify areas of weakness and establish priorities for improvement would all be classified as formative evaluation.

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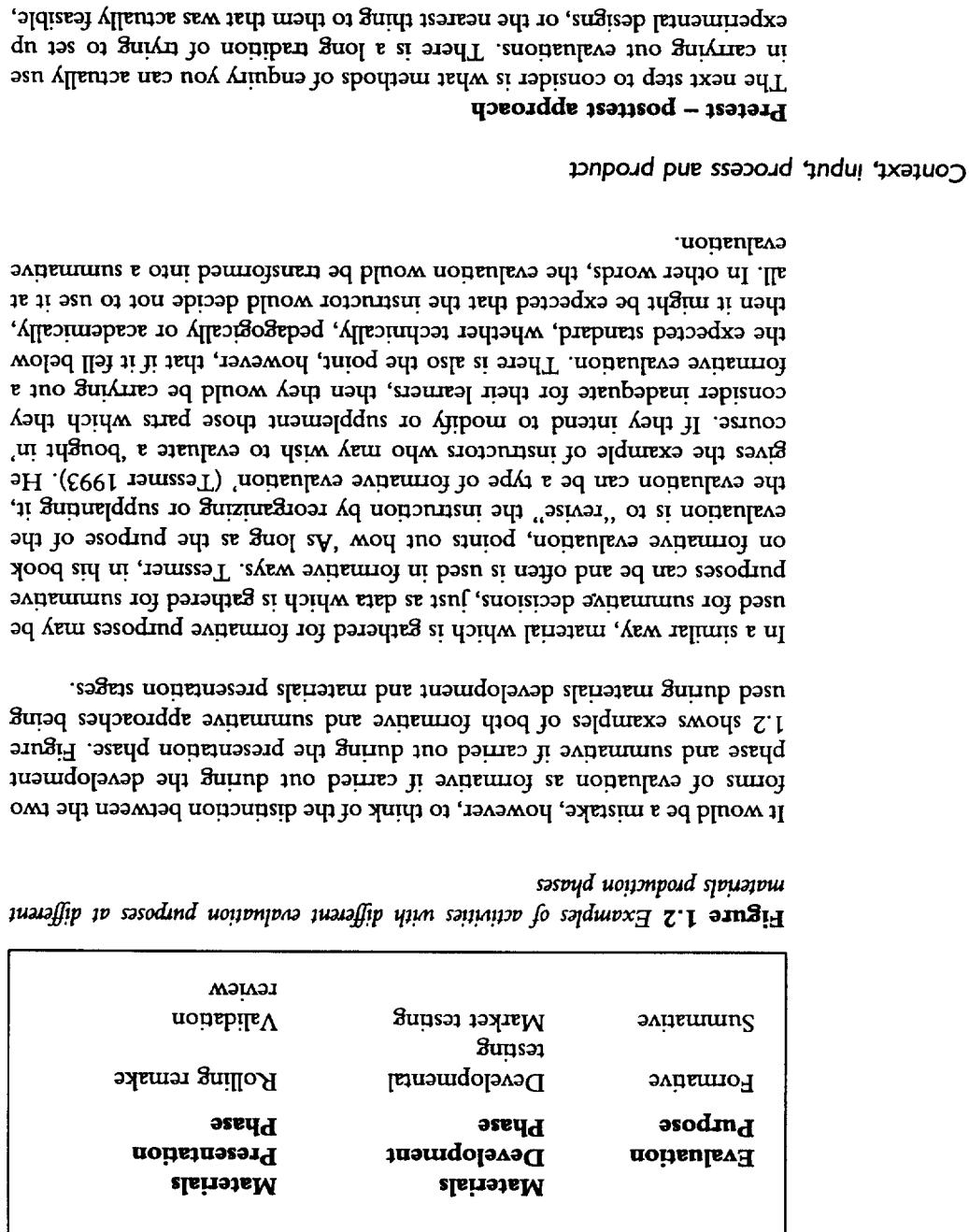
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in education and media research. However this approach does have limitations because of the problems of trying to control all the variables except for the experimental one. It is also open to criticism about the appropriateness of the 'lab-based' approach for investigating the effectiveness of instructional materials used by different kinds of people in different ways and in different settings. However, variations of it are still used for the formative development of instructional materials. Barbara Flagg (1990) describes a typical pretest-posttest investigation which was designed to look objectively and in detail at what pupils had learnt as a result of the use of videotapes and print materials:

An example of the one-group pretest-posttest design is the formative evaluation of Systems Impact's prototype videodisc lessons on fractions. . . Teachers presented a series of daily lessons on fractions using videotapes and print materials to mimic the instructional design of the Level 1 videodisc.

Criterion-referenced tests¹ integrated into every fifth lesson and comprehensive pre- and posttests established the degree of mastery of the fraction concepts. These tests gave evidence as to what programme content was or was not being successfully communicated.

Figure 1.3 illustrates this approach. As you can see, the learning experience, together with any other events or processes which might take place between the pretest and the posttest are not taken account of. In effect, the interaction of the students with the programme is treated as if it were a black box.



Figure 1.3 The pretest-posttest approach

This approach does have a number of methodological drawbacks. Flagg describes problems such as the drop-out from the test group, possible effects of external events, such as TV maths programmes at home, or extra help from parents, and the effect on the group of constant testing. As Flagg points out 'The pretest-posttest objectives-based study has limitations, . . . in its utility for formative evaluation because it provides little insight as to why the programme might be working or might not be working.'

¹ Criterion-referenced measures assess a student's achievement of subject matter or a student's behaviours in relation to a criterion standard of performance, not in relation to the performance of other students on the same test.

Hermes satellite for educational purposes in the late seventies drew is operating is essential. A major evaluation of the use of the Canadian For the evaluation of some projects, an evaluation of the context in which it

The CIPP approach
education programmes.
decision-making through greater understanding of formal evaluation as an aid to evaluators' understanding of the potential of formal evaluation as an aid to measurement and prediction, however, reflected a substantial shift in measurement with description and interpretation rather than stated. The concern with which had previously predominated to the 'agricultural-botanical' approach which had responded over extended the programme as a whole can or should be evaluated better than methods. The illuminative approach was developed very much as a response to the 'agricultural-botanical' approach which had previously predominated.

Clearly there are limits within programme evaluation as to how much of illustrates the illuminative approach.

What Parallel and Hamilton were identifying was the importance of the process as well as the input and the outcome. There is also a recognition of the importance of the context in which the learning occurs. Figure 1.4

Observation, interviews with participants (students, instructors,

problems, issues, and significant program features.

and background information are all combined to help 'illuminate' administrators and others), discussions, and analysis of documents

isolation but in the school context or 'learning milieu'.

programme as a whole: its rationale and evolution, its operations, education products is abandoned for intensive study of the

'anthropological' research paradigm. Attempted measurement of

decisions-making processes.

such evaluations are inadequate for elucidating the complex problem areas they confront and as a result provide little effective input to the

illuminative evaluation is introduced as belonging to a contrasting

parallel-posttest approach as a paradigm for plants, not people'. They wrote:

Hamilton (1972) who developed and introduced this approach saw the methodological approach, namely illuminative evaluation. Parallel and

actually going through led to the development of a very different

importance of understanding more about the process which the latter was

concerns about methodological problems and the recognition of the

Illuminative evaluation

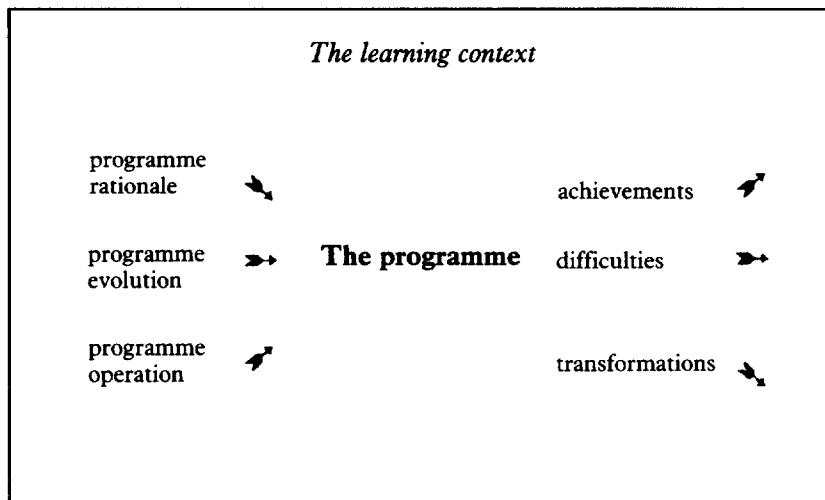


Figure 1.4 Illuminative evaluation

particular attention to this aspect. As the evaluators explained:

The importance of context in educational satellite projects is such that all evaluations must be partly illuminative, even if they rely heavily on survey methods. The study of context involves looking at the costs of the project and the manner in which it was managed. Although such issues are fraught with controversy, knowledge of them is essential to a fair assessment of an experiment. (Richmond and Daniel 1979)

The evaluation framework which was chosen for this massive project was the CIPP approach put together by Stufflebeam and his colleagues (Stufflebeam et al 1971). Richmond and Daniel explain how this acronym describes the four evaluation stages which can encompass the main aspects of the presentation of a course, programme of studies or major project.

Context evaluation: Descriptive data about the programme objectives, intended outcomes, criterion measures.

Input evaluation: The selected programme strategy.

Process evaluation: The implementation of the programme procedures and strategies.

Product evaluation: The success of the programme.
(The same as summative evaluation.)

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Utilization of evaluation

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The final and often neglected phase of evaluation is its utilization. Within institutions evaluation especially, the view of evaluation as an activity presented, is too limiting. The circle must be squared by looking at utilization as part of the evaluation process. This final phase is essential if the institution wishes to identify itself as a learning organization.

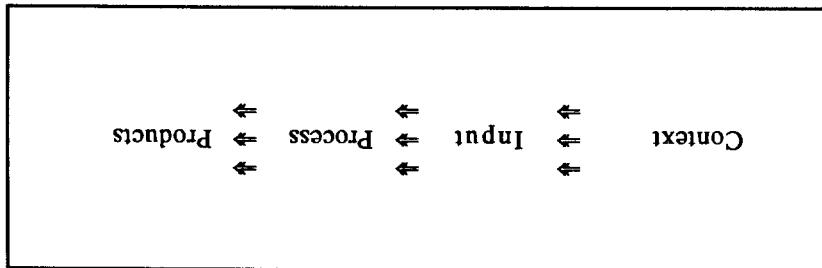
Utilization of evaluation

We will be looking at some examples of this approach in Chapter 7. Development of the illuminative process. We will be looking at some research process. In the evaluation context this approach can be seen as a participative research give respondents more power and a development in new ways of looking at evaluation. For example, the development in important. Similarly, developments in research methodology also open up communication between organization, students and tutors becomes more developed. With open and distance teaching, the role of evaluation as evaluation to shed light. New approaches to evaluation continue to be dependent on the particular concerns you have and on which you want the there are a whole range of different approaches whose usefulness will We have looked at the main key evaluation approaches, but in practice

Other approaches

as a course or even a module evaluation. approach is one which can be usefully drawn on even for small studies such example given is of a major national multi-project, but the advantage of the CIPP approach is its comprehensiveness. The

Figure 1.5 The CIPP evaluation model



innumerable organizations who have participated in evaluations of various kinds. A report from the Centre for Higher Education Policy Studies (CHEPS) in the Netherlands made the distinction between three types of results arising out of the evaluation activities associated with their quality assessment system: *no utilization*, *passive utilization* and *active utilization* (Westerheijden, Weusthof and Fredericks 1992).

No utilization

'No utilization' describes the situation where the organization takes no account whatever of the evaluation findings. This situation is, unfortunately, not unusual. Many readers will, I am sure, have shared my experience of having seen decisions taken just before the completion of a major, carefully designed and carried out evaluation study! In such situations, the evaluation report may not even be formally considered within the organization, but merely be put on a shelf, or lodged in a library.

Passive utilization

'Passive utilization' describes the situation where the evaluation findings are formally received and discussed within the institution, without any actions being taken to change anything directly as a result of the evaluation study. The report may be formally disseminated, may be discussed in committee, and may even be the basis for recommendations for a variety of future changes.

Active utilization

Only activity which takes place as a direct result of evaluation findings can be classified as 'active utilization'. Thus if a course evaluation suggests that a particular part of the course is presenting students with difficulties, and as a result, that course is modified, then this would be seen as 'active utilization'.

As Westerheijden et al suggest, this classification refers to the short-term use of evaluation. Very often the relevance and the implications of evaluation findings are not taken up institutionally for some time, but nevertheless, the information and insights from the evaluation may affect thinking within the organization to a considerable degree. You may be able to think of some instances where you have had this experience yourself.

While the worst instances of the lack of utilization of evaluation findings are often found in studies which are carried out by individuals or groups external to the institution this need not always be the case. Utilization can fail to take place regardless of whether the sponsoring group for an evaluation activity is internal or external to the organization; the evaluation activities are carried out by individuals or groups who are internal or external to the organization.

Conclusion

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These developments are part of the growing recognition that no stage of the evaluation process is a value-free activity. The decision collection, analysis or utilization of data is a value-free activity. This situation takes no account of the organization which the conclusions and recommendations from evaluation studies are linked with the decision-making structure of the organization is clear. Otherwise, the need for agreed procedures for dealing with the conclusions and recommendations from evaluation studies which are linked with the decision-making structure of the organization is clear. Otherwise, the sponsors are and whoever the evaluators are, it can be too easy for the findings of the evaluation to be set aside.

The need for agreed procedures for dealing with the conclusions and recommendations from evaluation studies which are linked with the decision-making structure of the organization is clear. Otherwise, the sponsors are and whoever the evaluators are, it can be too easy for the findings of the evaluation to be set aside.

We must therefore come to the conclusion that not only does evaluation mean different things to different people, but that its definition depends on one's philosophy of education and on how one intends to use about evaluation approaches reflects very much, as might be expected, the predominant concerns and cultural values of the time. So in education, for example, it could be argued that concerns about the quality of the learning experience for students have, to a considerable extent, been superseded by concerns about the efficiency of the providers.

Much of the early evaluation work in the field of education and training has led to the development of a range of evaluation approaches in response both to the identification of a range of evaluation needs at different levels in organizations, and to pressures from inside and outside organizations for more substantial information to assist decision-making at all levels.

Conclusion

In educational research, the implications of the context in which learning takes place for the way we look at the way students learn have long been recognized. With organizations, the model still holds. No provider operates in a vacuum. Just as we need to look at learners' personalities and the wider environment in which they live and work in order to understand their study behaviour, so we need to be aware of the ethos of individual organizations, and the external environment within which they must operate in order to appreciate their organizational behaviour. In the next chapter, we shall be looking at the wider environment in which providers of open and distance learning have to operate and at some of the implications of current trends for programme evaluation.

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