DOCUMENT RESUME

ED 056 513 EM 009 370

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TITLE	Toward a Model for Information Dissemination in Educational Technology Responsive to User Needs.
INSTITUTION	Tubingen Univ. (West Germany).
PUB DATE	71
NOTE	22p.; Speech given to EUDISED Steering Committee (Konstanz, Germany, April 28, 1971)
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Educational Development; *Educational Technology; *Information Dissemination; Information Needs; Information Services; *Information Systems; *Models; *Use Studies

ABSTRACT

A study looked at the possibilities for a user-based information system which could provide usable structured information about educational technology and attempted to determine how best to supply information about educational process to users. The study had three phases. The first surveyed the literature and activities of centers concerned with the problem. This survey showed that the necessity for choosing a system for processing information almost always precedes the availability of information about input to and demands on the system. The result is difficulty in adapting to new functions. The authors set forth recommendations for useful information networks. The second phase, now taking place, is design of a questionnaire which will provide data on potential user needs and attitudes. The analysis of the data will help determine the shape of the third stage, development of an information center on educational technology in West Germany. The study is being carried out by the German Institute for Studies in Educational Technology at the University of Tubingen. (JK)

Draft revised version of a talk given in Konstanz to EUDISED Steering Committee, Konstanz 28 - 29 April 197

TOWARD A MODEL FOR INFORMATION DISSEMINATION IN EDUCATIONAL TECHNOLOGY RESPONSIVE TO USER NEEDS

by Wolfhart H. Anders / Alexandra Draxler

Introduction

The authors are at present working on a study entitled "Comparative Inquiry into Information Storage and Retrieval in Remote Study", which is financed by the Ministry for Education and Science of the Federal Republic to be carried out under the auspices of the Deutsches Institut für Fernstudien at the University of Tübingen.

The study arose out of a specific perceived need, i. e. that for more and better information for the researchers and developers at the Deutsches Institut für Fernstudien (DIFF: German Institute for Remote Studies). The DIFF is a research and development institute which develops university-level courses for remote study; some courses are designed for in-

service training (of, for example, teachers), others are courses for university students. The institute was created in 1965 with funding from the Volkswagen foundation; its mandate is, broadly, fourfold: (1) to serve as a central agency for the processing and distribution of information about remote study development and potential to the general public and to policy-makers; (2) to carry out systematic research into remote studies; (3) to develop courses for remote study in areas where need is felt to be great; and (4) to serve as a coordinating body for other related research and development efforts. By virtue of its creation at a time (1965) when concern about the future of higher education was growing rapidly - related both to the overwhelming pressure of numbers and to the general quality and content of higher education - the DIFF is a focal point in the development of new strategies for instruction in higher education.

As a result, the DIFF finds that a very important part of its function is related to point (1) above - the dissemination of information about its own and related efforts. This has been done through a wide variety of publications by DIFF staff, ranging from research monographs to descriptive articles and even translation of important publications from other countries. But the authors saw, during the course of their work, the development of a need for structured information to meet a wide variety of needs. The DIFF alone has a professional staff of more than seventy people, in addition to being engaged in both formal and informal cooperative arrangements with many development teams working on related projects. Each university in Germany now has at least one person responsible for the problems of remote study; state ministries all have a concern with the development of remote study; teachers and students who are either currently taking DIFF courses or who might be interested form another large interest group.

Many of these people need information about remote study for decision-making or for use in developing courses. We therefore applied for, and received, funding to investigate the problem area and to pinpoint specific needs which might be met by a new service of some kind.

The inquiry was limited from the start to a general area we termed "Fernstudientechnologie" or "technology in remote study". The term was used in order to single out and feature the important, central feature of remote study - the processes of educational technology used to develop, test, and carry out new types of courses. To supply information in the vast range and level of subject areas covered cannot be the domain of responsibility of an organisation like the DIFF: information specific to subjects (foreign language teaching, science, etc.) must come through other sources. But information about the strategies of educational development, which are common to the whole of the educational process, can and should be available in unified form. It is precisely in this sector relating to the theory and practice of educational technology where information seems to flow much less easily and through highly informal and irregular channels. Several of the important reasons for such a problem are obvious: (a) thus far, work in other countries, notably in England, Sweden, and the USA, is in advance of that being done here, with the result that important developments are slow in coming to the attention of researchers here and the very important, informal channels of communication required to spread innovation work slowly if at all; (b) the published information in a new and changing field like educational technology is limited - and by the time it appears in published form it may often be out of date.

Remote study was chosen as a field of inquiry both because it relates to a specific,known target group - within which we work - and in order to limit the area of study. Clearly, the methods of educational technology used in remote study will differ little from other sectors, and any scheme to provide

information in such a limited area must eventually be part of a system with a broader base. The distinction is nevertheless useful for us because of the different kinds of educational products involved, as can perhaps be seen from the following description of the concept of remote study used by the DIFF:

> "It is not the essential characteristic of remote study that it occurs at a distance from and independent of existing institutions of higher learning, but rather that it takes place at a distance from and independent of lecturers who teach directly. Distant studies are therefore higher education studies which are brought about through impersonal media; it doesn't matter whether they are carried out in or outside the halls of higher learning, or whether they are fulfilled in individual work or in groups. Remote study is to be understood as a multi-media form of study and not as a single-medium study. In this context a purely correspondence form of study is as little envisaged as pure television study. Furthermore, this multi-media "remote study" is not a pure remote study; rather it exists as a matter of principle in a comprehensive media-mix."[1]

The concept of educational technology is very new to Germany: early American studies on educational technology are only now being translated into German and discussed here. As a result there is confusion and a general lack of awareness about what it entails.

Finn (1960) defined educational technology as follows:

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1) Dohmen, Günther: Reformanstöße für die Hochschulen durch Fernstudien? In: Konstanzer Blätter für Hochschulfragen, Februar 1971, p. 5, (translation by N. McLean)

> "The educationalist, in considering the effect of technology on the instructional process must remember that, in addition to machinery, technology includes process, systems, management and control mechanisms both human and non-human, and above all ... a way of looking at problems as to their interest and difficulty, the feasibility of technical solutions, and the economic values - broadly considered - of those solutions."[2]

Educational technology is a systematic approach to the development and management of the educational process. Its use therefore implies the use of all means at one's disposal to solve problems and test solutions in the teaching/learning complex. Its concerns are the rationalisation and validation of the learning and instructional process, into which technical aids may be incorporated when and if appropriate. The use of technical media is but one very small part of the general concept of educational technology, and it would of course be wrong to assume that the mere use of technical media means an improvement either in the use of resources or in the results.

DESIGN OF THE STUDY

The aims of the study were: first, to examine the operational possibilities for a user-based information system which could provide usable structured information for decision-making; second, to determine how best to supply information about educational process to users - in other words, whether "Fernstudientechnologie" forms a rational coherent body of information which should be supplied in integrated form; and third, to develop recommendations as to how the provision of information in this area could best fit into existing and planned

2) Finn, James, D.: Technology and the Instructional Process, AV COMMUNICATION REVIEW, Winter, 1960, p. 8

developments both on a national and on an international basis. With this in mind, a three-phase study was planned, in which of course some facets necessarily overlap:

1. A general survey of the literature and the activities of other centres;

2. A comparative analysis of responses to user needs, existing possible solutions, and a sample profile of the characteristics and felt needs of the potential target group in Germany;

3. The development of recommendations and the design of a pilot scheme which might serve as a basis for further development.

The survey of available literature and visits to other institutions were quite revealing: there were people doing careful thinking about the nature and functions of information systems, and yet practice lags considerably behind.

Much of the literature dealt quite extensively with information about systems for storage and retrieval, but there was fairly widespread lack of attention to overall goals or objectives which could relate to a target group of users. It seemed to the authors particularly disturbing to note a frequent emphasis on the available hardware, storage systems, and so on - which is a solution - sometimes taking priority over the theoretical framework of the system and general policy - the actual problem.

The authors met with a number of people and visited several institutions, particularly in the Federal Republic, among which were the Pädagogisches Zentrum in Berlin (producer of the Bibliographie Pädagogik, one of the concrete results of an effort by several educational information centres in the Federal Republic to coordinate some of their work in a "Dokumentationsring Pädagogik"), the Informationszentrum für Fremdsprachenforschung in Marburg, the Bayerisches Staatsinstitut für Bildungsforschung und -planung, the Internationale Zentral-Institut für das Jugend- und

Bildungsfernsehen, Institut für Film und Bild, Göttingen, Institut für den Wissenschaftlichen Film, Hochschule Informationssystem.[1]

The German Federal Ministry for Education and Science has outlined a proposal for a 'Federal Programme for the Promotion of Information and Documentation in the Federal Republic of Germany' which will be submitted to the Federal Cabinet at the end of this year. "The programme comprises all stages of the information process .... In addition to international cooperation, the topics discussed will include above all the infrastructure of information and documentation ..." (report by Ministerialrat Dr. Lechman to EUDISED Steering Committee, 8.April 1971).

The basis for these discussions was a schematic checklist covering features of information systems relevant for comparison (insert A overleaf); continuing consultation has followed this broad outline, so that information collected, while not detailed here, can be collected in compatible form for later use. There are a considerable number of new developments in Germany: new centers, new policy decisions.

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1) The meeting at which this paper was delivered is part of an important effort sponsored by the Council of Europe, EUDISED, (European Documentation and Information System for Education) - which has published several documents about potential European co-operation and has national a Steering Committee in each member country. Its efforts so far have been to study "the application of computer techniques to educational documentation and in formation ... to report in detail on the situation as it is at present and will in the foreseeable future; and to formulate a medium- and long-term plan for co-ordination and further development of educational documentation and information in Western Europe." EUDISED: Volume 1, Report of the Working Party, Council of Europe, 1969, p. 7.

Checklist for information collection and dissemination systems

1. Coverage

1.1 Subject

a) subject area and breadth

b) search and selection of input

c) type and media of input

c) quality analysis

1.2 User analysis

a) survey of information needs

b) user profile

2. Input

2.1 Core format; bibliographic description of

a) printed literature

b) non-print materials

c) hardware data

2.2 Abstracts

a) abstracting

b) function of abstracts

2.3 Structural pattern for retrieval

a) descriptors

b) thesaurus

c) taxonomy

d) modifiers for depth of response derived from

- information input

- user sophistication and requirements

e) carrier language

2.4 Technical processing possibilities

2.5 Processing of feedback from evaluation

a) incorporation of classification changes

b) incorporation of feedback from users

c) on-going assessment methods

3. Output

3.1 Form, i. e., microfiche, har

3.2 Routine output

a) indexes

b) abstracts

c) dissemination centres

d) lending

3.3 Selective output

a) translation

b) creation of information

c) software

d) retrospective search faci

e) training

3.4 Dissemination techniques

4. Management and Costs

4.1 Decision-making structure

4.2 Distribution of functions a and network planning

4.3 Charges to users

4.4 Physical facilities and per

4.5 Distribution of costs and r

5. Evaluation

5.1 Assessment methods and fail

5.2 Problem areas

5.3 Use of the system

5.4 Evaluation of initial decis

Some of the individual centres adopted an approach which seems very interesting, an expansion of traditional documentation functions in order to respond through a variety of original papers or answers to specific questions, to the needs of their users. The largest system in the USA is the ERIC (Eudcational Resources Information Centers) system, which is a massive effort ba the United States Government to develop a comprehensive system of documentation on educational research. The twenty clearing-houses collect and process information in various subject areas (the breaking up of the field of education into compatible coverage areas without unnecessary overlap will be discussed later in this paper) as well as offering individual services of different kinds. The construction of a thesaurus and the retrieval of information required has presented certain difficult problems, as one can imagine in a system of this size; on the other hand the newsletters and original papers which are initiated from individual clearingshouses prove valuable and popular with people involved in education at many levels.

In current provision of educational information to practitioners, there seem to be two distinct types of thought and activity without close connection to each other. One is that related to existing documentation and information systems, which are often heavily concerned with documentation and storage - and therefore with increasing the sophistication of the mechanical possibilities for carrying this out - sometimes at the expense of service to the user. The second is more closely connected with the processes of innovation dissemination and with communications theory; people working in these areas seem typically to be involved in development projects and the spread of innovation, without however being linked to a formal information system as such.

It emerged in a number of discussions that many of those closely involved in traditional documentation centres or even newer and technically sophisticated systems like ERIC feel very keenly the need for greater attention to long-term policy planning and objectives. There has been a very rapid expansion and diversification in the quantity and type of material without the development

of quality controls on input, and limited resources then later force a concentration of effort into the storage and processing of documents at the expense of supplementary services often felt by all concerned to be crucial. One interesting development of which some work of the Far West Regional Educational Laboratory (FWREL) in Berkeley is typical, is the emergence of multi-media kits designed either to train educational practitioners in specific areas which might increase their capacity to process information or to provide them with usable information for decision making.

Although the authors do not question the need for comprehensive archives and documentation in education, they felt strongly that in many cases resources are being used to sohpisticate documentation in centres not at any rate serving a wide target group, which could better be channelled into more diverse and newer efforts at spreading knowledge. A universal problem, both in the USA and in Europe seems to be that the necessity to choose a system for processing precedes in almost every case the availability of sufficient information about potential input and demands on the system, with the obvious result that an information centre at some stage finds itself with limited possibilities for adapting to carry out new functions much in demand.

Working assumptions

On the basis of observation and reviews of the literature, the authors set forth the following working assumptions, which are not intended to be comprehensive but rather guidelines within which to preceed on the particular project under discussion:

1. Information is a resource. It is a tool, not an end in itself and must therefore be provided in response to actual user requirements. The comprehensive collection and documentation of raw research data and related information is necessary, both for those few researchers who need it and for historical reasons; however, the large majority of practitioners require

structured data and have neither the time nor the competence continually to sift through primary information. Educational research in itself is not "disseminable". The confusion which sometimes arises between the functions of documentation and storage of unassessed information results in distribution of unwanted information, frustration by the user, and ultimately bypassing of the system in favor of other informal sources.

2. The function of an information system or center must be to provide the user with needed information. It is the job of the designers of a system to assist the users to obtain such material as they need - based on requests from the users, feedback into the system, assessment of user "packaging" preferences, and on the judgment of those who distribute the information as to what might be useful which is not well enough known to be in demand. Because the user does not always know what he wants, the system must assume a certain responsibility to help him become aware of new problems, and even to train him to find what he needs.

3. All information systems must assess their inputs, if only by the system of storage and of retrieval they use. The rapid expansion of information makes it increasingly important to recognise this fact and to act in order to make assessment a conscious and regular process at every level, from the selection of input through to distribution. Although the development of valid criteria for assessment is extremely complex it is at the heart of a functioning user-oriented service. Otherwise one assumes the position of shifting a heavy load onto the user, who is not equipped to deal with it.

It is interesting to note in this connection a comment in an unpublished internal memorandum "Review of Document Selection Criteria of ERIC Clearinghouses" from the ERIC Stanford Clearinghouse on Educational Media and Technology, that "we have attempted to analyse and compare the (selection) criteria across the twenty Clearinghouses and found this at times much

like trying to compare apples and oranges." Following is a treatment of general headings covering selection criteria, as "Scope or Relevance", "Significance or Impact", and "Research Design and Methodology", and a matrix comparing the use of these criteria in the various clearinghouses. But it is exactly the definition of value terms such as "Research Design" in a logical and meaningful sense that is problematic.

4. To fulfill the function outlined in point (2) a system must not only respond to demands upon it but also act to stimulate the dissemination and flow of information. This is a crucial point, and one which several centers have made an integral part of their overall functions. The creation of information to fill gaps is at least as important as the provision of data to sophisticated researchers who know what they need and can search until they find it.

The chart overleaf which incorporates Havelock's concept of "gatekeepers" and "multipliers" of information, illustrates the assumption that the most important and potentially far-reaching function of an information system is the stimulation of information flow to and through a group of people called gatekeepers - who for various reasons communicate with large numbers of people and pass on information on a personal basis. Gatekeepers are descriped by Farr as ..." people who permit messages from the mass media to enter the interpersonal channels, the discussions of small groups, in the mass audience. These individuals are the obvious targets of our messages about new ideas in education ... because research has shown that they exert a disproportionate amount of influence in the adoption of new ideas .... Gatekeepers are distinguishable from the remainder of the audience in several ways. They use the mass media and other sources of information external to their own group more frequently .... Another attribute is ... their general orientation toward persons and topics external to their own group."[1]

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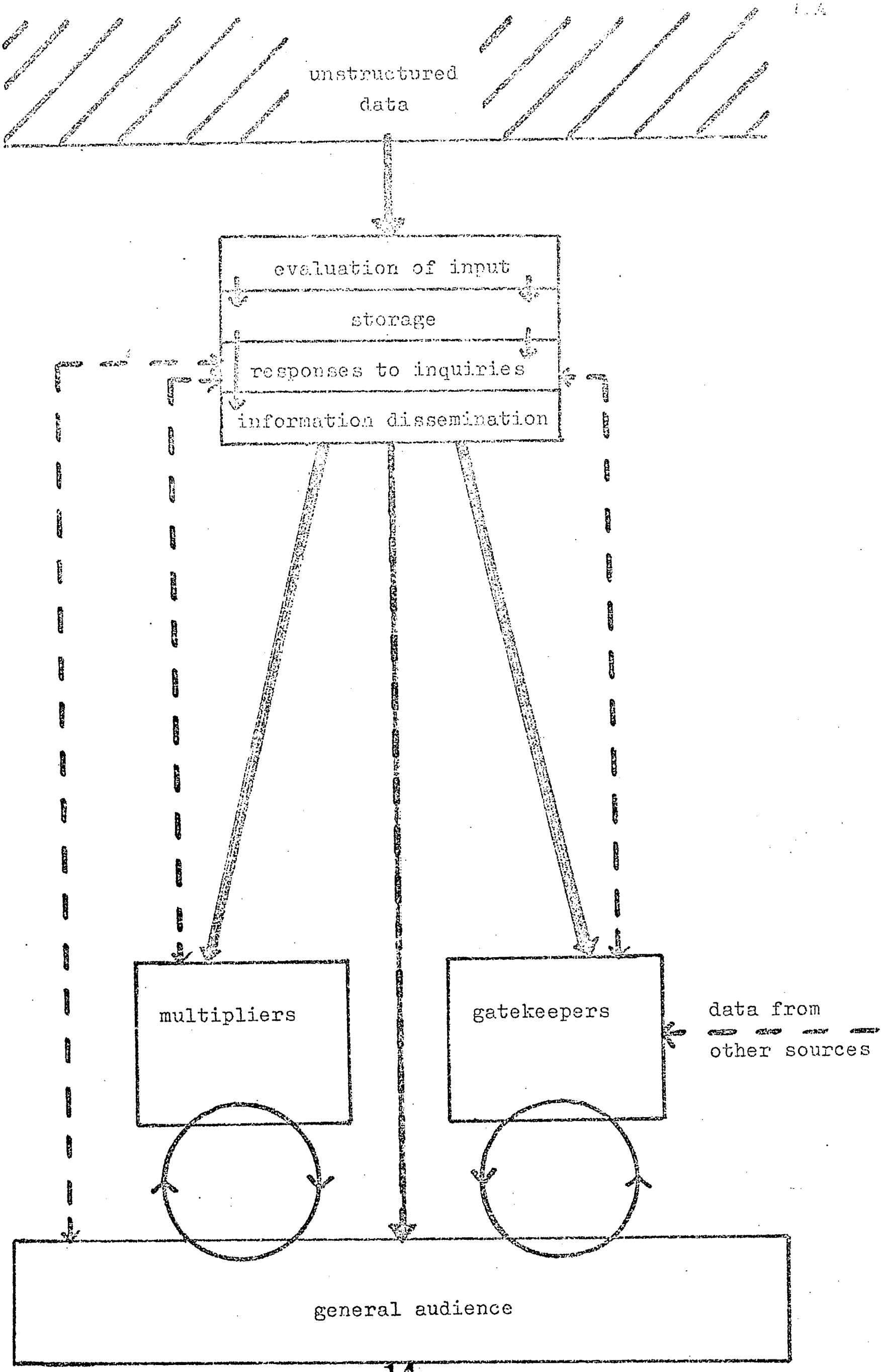
1) Farr, Richard S. 'Knowledge Linkers and the Flow of Educational Information', ERIC Stanford, September 1969, p. 10


unstructured
data
evaluation of input
storage
responses to inquiries
information dissemination
multipliers
gatekeepers
data from
other sources
general audience

The diagram is not meant to be descriptive of a specific situation, it could however be adapted to fit various examples; it is specifically meant to highlight the fact that the spread of information used for decision-making takes place to a great extent on an interpersonal basis, and that a system should act to feed structured, evaluated data to those people - the gatekeepers - who perform the key roles in this process.

5. Information systems have a powerful potential as distributors of educational innovation, which remains often largely untapped but which should be used to as great an extent as possible. The spread of innovation is of great concern to people working at all levels of educational development. It is particularly important to this study to analyse the processes involved and in the pilot scheme envisaged for phase three a central feature will be the dissemination of information about innovation.

6. The nature of educational information changes constantly; hence selection criteria and processing mechanisms must be adaptable to take into account both those changes and changes in the demands of the users. Feedback is crucial to the self-evaluation needed for adaptation.

7. In order to contribute to any eventual rationalisation of the system of educational documentation, an individual centre must make every effort to plan a development compatible with other national and foreign services. Although the Eudised group is still largely in the planning stages, its existence and work in this connection are very hopeful developments.

It was also necessary to develop some sort of framework within which to break down the field of education into manageable categories which could serve for information grouping. As a working model a three dimensional matrix has been used: subject areas (mathematics, foreign language, educational technology along one sinde, target groups (primary, secondary,

adult, etc.) along another, and functional influences (here come administration, planning, research, teaching) along the third. Although any division of education into areas for information is highly problematic, it would seem that as a basis the subject areas might come first, with other groupings to take care of areas not thus covered - if the primary target group is educational practitioners and researchers, which can probably be assumed. When looking at the names of the clearing-houses, it seems that ERIC has made decisions about centres above all on the basis of issues of importance: "Early childhood", "Disadvantaged", etc. There are acknowledged problems with such an approach which are probably increased by any need to transfer information among different countries with varying major problem areas. However, a subject matter grouping might prove to be a workable solution; user reaction to such a division will be elicited from the questionnaire to be sent out to potential users of information about educational technology. The developing trend toward interdisciplinary and multi-disciplinary studies may necessitate another very careful look at this question.

Phase II: Analysis of Potential User Needs and Attitudes

Design of a questionnaire

Based on the broad framework provided by the working assumptions above, we then faced the problem of discovering some specific information about the target group for information concerning Fernstudientechnologie. It was decided to use both informal, individual interviews and a formal questionnaire, which is being developed in cooperation with Mr. W. Kschenka of the PZ in Berlin. Individual talks have been based on the guidelines for the questionnaire and on a checklist of crucial points relating to information centres in general; in this way the questionnaire can be revised and to some extent tested informally and the results of the interviews can be compared and collated into usable form.

Many useful inputs have been provided already through individual talks, both in Germany and in the USA and Great Britain. At a later stage it is planned to use the completed questionnaire as a basis for a number of selected in-depth interviews in order to elicit the kind of free comment which is very difficult to obtain from a written questionnaire.

A large proportion of the potential target group is either directly or indirectly connected to the DIFF, as staff members, members of related course development teams, people working for governmental agencies concerned with Fernstudium, students and teachers taking DIFF courses, and so on. They are a diverse group, with interests of varying depth and intensity in remote study. Given the fact that the DIFF occupies a prominent role in the development of remote study as a potentially integral part of higher education in Germany, a questionnaire sent to a sample of those people who already known by the DIFF to have some professional interest in remote study can be expected to give a valid cross-section of replies about information needs.

Clearly, people in such a diverse target group of researchers, students, practitioners, and administrators fulfill a wide range of job functions and perform many tasks; they also have different requirements for the form and content of information they require. A general breakdown of the various task areas related to remote study (which do not normally correspond to jobs, as many people carry out two or more of these tasks in different combinations) can be made as follows: research; 'Bildungsplanung' and 'Bildungspolitik' (educational policy and planning); management; course design and production; evaluation and testing; teaching; and information dissemination. A description of the task areas can be useful as a basis for differentiating among different types of information to be disseminated and styles and forms of presentation.

The questionnaire, currently in draft form, contains a number of structured questions as well as space for free responses,

and follows the general breakdown of task descriptions in obtaining a respondent's profile. Numerous questions about both formal and informal current sources of information are asked, which can be checked against the respondent's tasks and responsibility to pinpoint areas of greatest need and preference as to types of material to be made available. It is anticipated that the questionnaire will be sent to some five hundred people, the names of whom have been assembled from large and carefully collected address lists within the DIFF and therefore include all educationalists who have some formal contact with remote study and a sample of those simply known to be interested. Since the users at least in the first instance will be people already interested or involved in "Fernstudientechnologie" we are not overly concerned with the shape of the sample; those asked are those who are already connected to the subject area and include the key target group as well as, therefore most of the pivotal informal information distributors, or "gatekeepers".

The questionnaire has been developed according to the following aims, which form the framework of the study and are also used for direct interviews:

1. To develop from the questionnaire in more complete form an outline of the content of the field of remote study. We want to check our ideas about what is contained in this field (the subject area break down) against those of the respondents.

2. To characterize of the specific task functions of the respondents. What are the work areas of the target group? On which do they spend the most time, and for which would they need the most information? - This can also help us to assess how much information they have the need and the time to use for given areas. Again our task division will be checked against the respondents' replies.

3. To obtain a profile of the information needs felt by the respondents. Do they, for example, want general surveys for decision-making, in-depth and comprehensive informa-

tion on specific themes, etc.

4. To collect data on the users of information with regard to their function in the general flow of information. How do respondents use information, and in what context? Who are the "gatekeepers" and "multipliers" we have referred to? To whom and why do they pass on information and how widely?

5. To find out what sources of information are currently used by respondents.

6. To find criteria for evaluating the unstructured material and data.

7. To obtain knowledge about the most effective methods for disseminating information. We want to make some decisions about what types of information should go to which people, for example whether a large portion of information can be beamed at the gatekeepers, what should be as widely disseminated as possible, etc., but moreover we are trying to find out, what kind of 'packaging' is needed for the specific sections of the subject area and for the individual sections of the target group.

It was originally intended to use a matrix format in asking respondents about information needs; the matrix is composed of a slightly elaborated version of the task breakdown given above with the other coordinate a breakdown of types of information. The matrix, expanded with questions, might have served to pinpoint crucial unmet need areas and to group these into a coherent service. Subsequent analysis and consultation has demonstrated that such a format would impose prior restrictions on respondents which would make it impossible to obtain spontaneous responses. Although such a format has been discarded for use within the questionnaire, it will be used as one tool for analysing the responses.

Phase III Implementation of a Pilot Scheme

The questionnaire and related interviews will provide valuable data about the spread of information and broad need areas, as well as the basis for guidelines for any

new information centre covering educational technology. The analysis of answers will be a vital factor in determining the shape of our pilot scheme.

It has become clear to us that one broad area in which there is no systematic privision of information in Germany, namely educational products. The traditional breakdown among various types of media (film, sound, print, etc.) for information purposes is still largely in operation. Yet, decision-makers in education; those in funding agencies, students, researchers, and practitioners, are faced at some time with need for comparative data about new materials. These materials are of course, of particular relevance to the DIFF, whose efforts are to develop models in areas of need and based on knowledge about best current practice.

The collection, classification, and description of self-contained learning packages would fill an expressed need in the DIFF; such work is ideally suited for a pilot scheme because it is self-contained in an , as yet, fairly limited area; it does not encroach on other work going on; and it can easily be incorporated into any other, larger project.

There is a proliferation of new material at many levels and from many diverse sources - targeted to a wide range of objectives. For remote study, those of greatest interest and potential are self-contained materials in small modules designed to be strung together in various combinations to meet individual or institutional needs. Subject to modification of the type and extent of input to correspond to the results of the questionnaire, it has been decided to begin a pilot scheme by devising a system for providing information about this kind of learning package: the breadth and type of information to be provided must be decided upon and modified as an on-going process resulting from feedback from the users.

Comparative, study done in earlier stages indicates, that other countries such as the USA, Great Britain, and Sweden,

have recognized that the problem o
and comparative information about
general, and specifically new pack
Various approaches are being taken
several of which can briefly be de

The National Council for Education
a system called Higher Education I
Information Service (HELPIS), the
simply a catalogue of materials av
catalogue lists everything, which
available to be exchanged and give
technical details, and a summary
will perhaps focus on more elabora
there exists a non-profit corpora
Products Information Exchange (EP
the area of social sciences at th
periodical and supplying informat
for expansion into other areas.

And of course, large libraries fa
selecting and classifying non-pri
systems. The American Library Ass
Sheet for Nonprint Materials" whic
details, a brief evaluation, and
accompanying print material.

The Far West Laboratory has devel
(Alternatives for Learning throug
Technology) to collect informatio
General descriptive information
abstract of the program on the o
punched to indicate duration, co
target audience, and grade level

The Westinghouse Learning Corpor
extensive catalogue of learning
some similar work under way.

Current work in Germany on film description and classification does not meet the problem of how to describe and compare learning materials, and it is to this latter problem that we now want to address ourselves. There are, of course, two facets, one dealing with description for selection and classification purposes, the second with the development of criteria by which to compare and analyse materials and present analysis to the user. In order to provide the user with comparative information which can help him to decide which materials he can use for what purpose, we must rely heavily on what we can find out about his needs - and indeed, whether we can help him to articulate them.

It is planned to work on a small scale in this area over the next months, developing assessment and description criteria, obtaining further feedback from DIFF staff about needs, and organising several informal training and discussion seminars in related areas.

We have already begun collecting and reviewing material on a modest scale.

EXPECTED RESULTS

Our investigation into user requirements will provide us with the basis for guidelines for general information provision in the area of Fernstudien, and a basis for discussion as plans materialize in other sectors in Germany. Our work on learning modules will serve DIFF staff with badly-needed information, and as it develops can eventually be incorporated into any efforts comprehensively to collect curriculum materials ans make them available. We are very hopeful that our results can also contribute to a developing discussion on the collection and exchange of course materials for higher education among the European countries. Such a discussion is a necessary and welcome prelude to the transfer and dissemination of the best results of the work of educational technologists throughout Europe.