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COUNCIL FOR CULTURAL CO-OPERATION

Ad hoc Committee for
Educational Documentation and Information

EUDISED STEERING GROUP

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WORKING PAPER

The nine papers which are produced in this document were distributed at the meeting. They contain summaries of the talks given on information policy and on individual projects in the Federal Republic of Germany.

I. Federal Programme for the Promotion of Information and Documentation in the Federal Republic of Germany

Federal Ministry for Education and Science
by Ministerialrat Dr. Lechmann

In September 1970, the Federal Ministry for Education and Science (BMBW) began to draft for the Federal Government a comprehensive "Federal Programme for the Promotion of Information and Documentation", initially for the period from 1972 to 1976. It will supplement the BMBW's promotion measures to date, thus leading to systematic planning and the promotion of the whole field of communications on a national level. Among those participating in the programme activities are the most important centres of information and documentation and the representatives of trade associations and universities. The basic concept on which the programme rests was approved by the competent government departments at a meeting of the "Documentation and Information Commission" of the Inter-ministerial Committee for Science and Research, held on 7 October 1970. The programme will be submitted to the Federal Cabinet late in 1971.

The programme comprises all stages of the information process: primary information, libraries and archives, information and documentation centres for literature, data and projects in science, technology, education, administration, legislation, jurisdiction and in economic affairs and the use of information. In addition to international co-operation, the topics discussed will include above all the infrastructure of information and documentation: e.g. training, research and development, management, standardisation and harmonisation, technical assistance centres (computers and reprography facilities) as well as translation.

Objectives

1. To improve scientific and technical primary information and to adapt it to the needs of an efficient distribution and retrieval of information,
2. to increase the efficiency and economy of the recording, evaluation and distribution of information and, in particular, to streamline it with a view to the complexity of user-needs,
3. to accelerate the application of research and development results in industry, above all in manufacturing processes,
4. to establish the basis for successful co-operation in international ventures and projects.

Measures

The gradual establishment and further development of a compatible network of efficient subject-related information systems, which must be as close-meshed as possible, for the main groups of scientific disciplines (natural sciences, engineering sciences, life sciences, social sciences, the arts), for the multi-disciplinary fields (e.g. nuclear and space research, marine research, environmental research, peace and conflict research), and for social policy objectives (e.g. education, public health, agriculture). The promotion programme will elaborate principles for the organisation, tariffication, financing and promotion with regard to the extension of existing information and documentation centres, and to the establishment of new ones, and establish priorities arising from political objectives on a national level and from international requirements. Provision will be made for giving initial financial support to individual projects and institutions. It will be a priority to promote, among others, one demonstration project for each of the new information activities: an information analysis centre, an information centre for research and development projects, a materials data bank, a repackaging and a liaison service of information and documentation centres for specialised users, an interdisciplinary evaluation and information service for the results of government-promoted research and development, a management information system.

Infrastructure

What is important above all is a considerable improvement in the whole management of information and documentation, in particular the further development of centres with administrative, scientific and technical functions not related to subject fields (planning, co-ordination, consultation, etc.).

The research and development programme includes the following priorities:

- study of the fundamentals of information and documentation science (i.a. stock-taking and further development of theory forming, theoretical bases, research methods);
- study and development of documentation languages and classification systems;
- study of the prerequisites for efficient information systems;
- management of information and documentation centres;
- planning and design of prototypes of information and documentation systems;
- mechanical documentation techniques;

- advanced technologies for information and documentation;
- didactics of information and documentation;
- subject-orientated research and development.

The programme is to be implemented by:

research institutions which are supported from Federal funds on the basis of the individual institutions;

research institutions which are supported on the basis of the individual project.

It is planned to set up a central research and development institution which, in particular, will be in a position to carry out large projects of application-orientated research and development. Basic research should, however, to the largest possible extent, be carried out at the universities.

The education and training of information and documentation specialists must be given priority. Therefore, the following measures are being planned or supported:

- improvement and extension of the training opportunities for documentation specialists;
- organisation of information science courses at the universities;
- harmonisation and partial amalgamation of training courses for documentation, librarians and archivists;
- training of users in all sectors of further education at specialised schools, universities, etc.;
- encouraging researchers, teachers and practitioners to acquire further knowledge in information and documentation.

Standardisation and Harmonisation

What is aimed at is a comprehensive, generally accepted set of rules for all phases of information and documentation work which are to be harmonised; the following priorities have been fixed for this set of rules:

- the establishment of rules for the efficient presentation of primary literature so as to meet documentation requirements;
- the preparation of data formats for the input and exchange of data;

- fixing of principles for the preparation of the abstracts of the content of documents;
- the fixing of uniform efficiency criteria to be applied to information and documentation facilities;
- the fixing and introducing of minimum technical requirements to be applied to information and documentation facilities;
- the standardisation and harmonisation of terminology.

In order to cope with these tasks, it is necessary to develop existing standardising institutions, to promote research and development projects and to set up an information centre for terminology.

The use of the most advanced technical aids is a pre-condition for efficient documentation. Hence it is necessary to ensure that sufficient computer and reprography capacities are available. There are plans for further extending the Zentralstelle für maschinelle Dokumentation (Mechanical Documentation Centre), the Arbeitsstelle für Bibliothekstechnik (Library Techniques Centre) and the Reprography Department of the Institut für Dokumentationswesen (Documentation Institute), for setting up regional and subject-orientated computer service centres and for supporting regional reprography service centres.

As far as scientific and technical translations are concerned, the following promotion measures are given priority:

- extension of existing translation services to meet the increasing demand: Ostsprachenabteilung der Technischen Informationsbibliothek - TIB -, Hannover (Eastern Languages Department of the Technical Information Library) and Osteurope-Institute (Institute for Eastern Europe) of the Free University of Berlin,
- establishment of translation centres for agronomy and the social sciences;
- extension of translation referral activities;
- the further development as well as routine use by TIB of the CETIS automatic translation programme.

International co-operation

Efforts in this field are aimed at:

- extending bilateral co-operation with various other countries, in particular in the field of science policy, and establishing new contacts;

- intensifying German participation in international ventures and compound systems by means of increased promotion;
- strongly supporting the European integration efforts in the field of scientific and technological information and documentation;
- co-ordinating the numerous German initiatives and activities in international documentation.

Computerised Documentation Projects in the Social Sciences

1. Documentatio Geographica
Bundesforschungsanstalt für Landesforschung und Raumordnung
532 Bad GODESBERG, Michaelshof
Geography
400 journals scanned,
Frequency: bi-monthly with annual cumulations
2. Bibliographie Schulfernsehen
Bibliographie Fernsehen und Jugend
Internationales Zentralinstitut
für das Jugend - und Bildungsfernsehen
8 MUNCHEN, Rundfunkplatz 1
Education and television
613 titles
3. Bibliographie betriebswirtschaftlicher Literatur
Verlagsgesellschaft "Neur Betriebswirtschaft"
69 HEIDELBERG, Bahnhofweg 2
Management Science
700 journals scanned,
Frequency: 8 times a year with annual index.
4. Bibliographie Pädagogik (computer processing pending)
Verlag Julius Beltz
WEINHEIM, Am Hauptbahnhof 10
Education
430 journals scanned
Frequency: bi-monthly
5. Parlamentsspiegel-Kartei
Landtag Nordrhein-Westfalen, Düsseldorf
DUSSELDORF 1, Postfach 5007
Law, policy, 15,000 abstracts per annum
Frequency: bi-weekly
6. Bibliographie Programmierter Unterricht (computer processing pending)
Pädagogisches Zentrum
BERLIN 31, Berliner Str. 40-41
Programmed instruction and educational technology
120 journals scanned
Frequency: bi-monthly

II. Co-ordination of inquiries into current and completed research projects in the social sciences

by Dr. K. Spangenberg, Pädagogisches Zentrum, Berlin

As regards education, a tentative list of empirical research was issued in 1965. A survey on current research projects in education, educational psychology and educational sociology titled "Dokumentation Forschungsarbeiten Pädagogik" was published in 1967 covering 184 research projects. A survey in 1968 could locate 400 research projects. (cf. "Dokumentation Forschungsarbeiten Pädagogik '68". Weinheim: Beltz 1970).

In 1967, preparations for a co-ordination of inquiries into current and completed research projects in the social sciences began. They resulted in:

- (a) pooling of the addresses of all participating institutions,
- (b) developing a questionnaire considering the interests of those institutions,
- (c) a first joint inquiry on the basis of the pool of addresses in 1968, and inquiries following that 1969 and 1970, and
- (d) the establishment of an "Informationszentrum für Sozialwissenschaftliche Forschung, 53 Bonn-Bad Godesberg 1, Eheinallee 35a.

At present, the members of the group co-ordinating their inquiries "Arbeitskreis für die Dokumentation Sozialwissenschaftlicher Forschung" (ADSF) are:

	<u>interest in (research on):</u>
1. Arbeitsgemeinschaft sozialwissenschaftlicher Institute e.V., Bonn	social sciences
2. Dokumentationsstelle für Agrarpolitik, landwirtschaftliches Marktwesen und ländliche Soziologie, Bonn	agricultural policy, agricultural marketing, rural sociology
3. Institut für Arbeitsmarkt und Berufsforschung der Bundesanstalt für Arbeit, Erlangen	manpower, vocations, and professions, etc.
4. Max-Planck-Institut für Bildungsforschung, Berlin	educational economy, educational planning, curriculum research

5. Kuratorium Deutsche Altershilfe, gerontology
Bonn
6. Leitstelle Politische Dokumentation, Berlin politics, political sociology, etc.
7. Institut für Politische Wissenschaft an der Freien Universität, Berlin politics, political sociology, etc.
8. Pädagogisches Zentrum, Berlin education, educational sociology and psychology, educational technology, teaching and learning
9. Schweizerische Gesellschaft für Soziologie, Zürich social sciences
10. Zentralarchiv für empirische Sozialforschung an der Universität zu Köln, Köln identification of computer tapes with social science data (opinion polls, research, etc.)

By the middle of 1971, the first joint output will be a register on current research projects with indexes prepared for each subject field by the relevant member or members. Education will be covered e.g. by the Max-Planck-Institut für Bildungsforschung and the Pädagogisches Zentrum co-operating on indexing. Full texts of the current research projects are issued in a publication "Forschungsarbeiten Pädagogik".

The Institut für Arbeitsmarkt- und Berufsforschung der Bundesanstalt für Arbeit, Erlangen, processes all data on research relevant to them by computer, and compiles their report with the help of a computer.

The retrieval of completed research has to be done manually so far by the "Informationszentrum für Sozialwissenschaftliche Forschung". There are plans to computer process the research register facilitating inquiry and retrieval operations.

The "Arbeitskreis für die Dokumentation Sozialwissenschaftlicher Forschung" deals only with one of the projected activities of the "Informationszentrum".

III. DOPAED (Dokumentationsring Pädagogik - a chain of centres for educational documentation)

by Dr. K. Spangenberg, Pädagogisches Zentrum, Berlin

The DOPAED is a chain of institutions who - on a voluntary basis - co-operate in the analysis of literature and materials as well as in organising and offering information in the interest of improving education. Their subject scope is education and educational research. The information and documentation activities of the member institutes of the DOPAED are subject to formal standards that have to be considered when using methods of electronic data processing. As a rule, contracts are made for individual documentation projects.

Only those institutes will be accepted as ordinary members that dispose of a sufficient capacity in documentation, are willing to keep their own standards and rules compatible with those of the DOPAED, and either co-operate in the "Bibliographie Pädagogik" or carry through other documentation projects within the framework of the DOPAED.

Due to an agreement among the membership, the function of a co-ordinating centre of the DOPAED is at present taken over by the Pädagogisches Zentrum, Berlin.

The preceding three paragraphs are the gist of the rules agreed upon by the present members. Without any formal rules the DOPAED began in 1964 to prepare the joint publication of the "Bibliographie Pädagogik" that succeeded to two other bibliographies in 1966. No standard format being available, the group had to develop its own "Maschinengerechte Titelaufnahme für Dokumentationsprojekte im Dokumentationsring Pädagogik" (machine-readable format) that was completed to be used from January 1968 on. The format used from 1966 to 1968 covering 16,988 entries in the "Bibliographie Pädagogik" would not allow a direct computer processing for those entries without special adaptation. Since 1968, however, some 45,000 to 50,000 titles are ready for computer storage, processing and retrieval.

Already as early as 1964, the group tried to identify computer programmes adequate for documentation. Many discussions as well as experiments have been made. For various reasons an option was taken in favour of the TELDOC 440 that is going to be demonstrated at Konstanz. (cf. Wilfrid Kschenka "Concerning the development of a programme for the processing of a catalogue for the 'Bibliographie Pädagogik'").

In 1968 Hans. H. Sträter began with preparations for a "Thesaurus Pädagogik" (cf. Hans. H. Sträter "A German Information Retrieval Thesaurus on Education: 'Thesaurus Pädagogik'").

The following list contains names and addresses of the present membership of the DOPAED. Addresses were added in order to facilitate direct contacts with those institutes.

1. Deutsches Institut für Internationale Pädagogische Forschung
6 Frankfurt/Main 90, Schlossstr. 29
2. Deutsches Jugendinstitut
8 München 13, Infanteriestr. 13
3. Forschungsstelle für Auslandspädagogik und Auslandsschulwesen beim Lehrstuhl für Pädagogik, Pädagogische Hochschule Niedersachsen, Abt. Oldenburg,
29 Oldenburg, Ammerländer Heerstrasse 67-99
4. Informationszentrum für Fremdsprachenforschung,
355 Marburg/Lahn, Liebigstr. 37, Postfach 544
5. Institut für Pädagogik der Universität
Wien, 1010 Wien 1/Osterreich,
Universitätsstr. 7
6. Internationales Zentralinstitut für das Jugend- und Bildungsfernsehen - Bayerischer Rundfunk -, 8 München 2, Rundfunkplatz 1
7. Max-Planck-Institut für Bildungsforschung
1 Berlin 31, Blissestr. 2
8. Pädagogisches Zentrum. Leitstelle im Dokumentationsring Pädagogik
1 Berlin 31, Berliner Str. 40-41
9. Institut für Film und Bild in Wissenschaft und Unterricht, 8 München 22, Museumsinsel 1
10. Österreichisches Institut für Jugendkunde
1150 Wien, Osterreich, Pouthongasse 3
11. Sekretariat der Ständigen Konferenz der Kultusminister der Länder in der Bundesrepublik Deutschland
-Dokumentation und Auskunftsdienst-
53 Bonn, Nassestr. 8
12. Staatsinstitut für Bildungsforschung und--planung, 8 München 22,
Ludwigstr. 16

13. Staatsinstitut für Gymnasialpädagogik
8 München 15, Pettenkoferstr. 35

14. Unesco-Institut für Pädagogik
2 Hamburg 13, Feldbrunnenstr. 70

With the exception of the institutes nos. 4, 6, and 9, all other centres participate in the analysis of literature and materials for the "Bibliographie Pädagogik".

The "Bibliographie Pädagogik" (10,000 titles per year can be subscribed to for 46 DM per year only). To make it self-supporting, the price will have to be more than doubled. Financial difficulties, unfortunately, caused a time-lag - not in preparing MSS but in printing - of over a year. Difficulties now seem to be partly overcome. By the end of this year, the time-lag can be reduced to about six months. The present procedure would not allow for a further reduction to less than four months.

The members of the DOPAED recently agreed to refer to each other's documentations, bibliographies, etc. in all of their publications. A selection of the output of the DOPAED can be found in the following:

IV. The development of a programme for the processing of a catalogue for the "Bibliographie Pädagogik"

by Wilfrid Kschenka, M.A.,
Pädagogisches Zentrum, Berlin.

Bibliography Pädagogik, monthly bibliography. Editor:
Dokumentationsring Pädagogik.

This bibliography is the successor to the publications "Pädagogisches Schrifttum" and "Blick in die pädagogischen Zeitschriften", and has been published since 1966. Besides monographies, about 430 German and foreign periodicals relevant to education are being analysed. Some 10,000 titles are listed annually. The titles are described according to the regulations "Machine-readable format for documentation projects in the Dokumentationsring Pädagogik". Since 1968, titles analysed according to these rules have been stored on punched paper tapes (8 channel paper tape). The compilation of this bibliography is to a far reaching extent made manually with the aid of these paper tapes. It is only the indexes that are listed mechanically with the aid of punched cards. The printing of the bibliography is carried through by means of offset printing.

At present, the bibliography contains the following catalogues and indexes:

- (1) Alphabetical list of periodicals (published every year in number 01+02 and number 07+08, respectively),
- (2) Alphabetical catalogue of authors or of titles of anonymous articles,
- (3) Index 1 (in alphabetical order according to main descriptors),
- (4) Index 2 (in alphabetical order, according to subordinated descriptors),
- (5) Topographical index,
- (6) Index of persons and institutions,
- (7) Alphabetical index of by-entries.

In future, the bibliography will only contain the following catalogues and indexes:

- (1) Alphabetical list of periodicals,
- (2) Alphabetical catalogues of authors or of titles of anonymous articles.

Up to now, the alphabetical catalogue includes the main entries only.

The catalogue processing programme allows for the inclusion of by-entries, too. Therefore, the register of by-entries is omitted.

(3) Index

The indexes 1 and 2 that have been used up to now, and the indexes of persons and institutions are cumulated.

(4) Topographical register

As an example for some of the problems that arose during the development of the catalogue processing programme, the difficulties of the topographical index are described subsequently:

Machine processing of the topographical register is extraordinarily difficult. In order to make the kind of these difficulties understandable, details must be given concerning both practical procedures and the use of topographical data. They are:

- (a) Names of cities, towns, and communities, names of regions, i.e. names of the Länder, however only those of the Federal Republic
- (b) of Germany, of Austria, and of Switzerland),
- (c) and names of countries.

Example 1: Schulbauplanung:/ Dortmund/
This form can be used only if the larger region (Bundesland) which the town belongs to, is also named, i.e. Schulbauplanung:/D-Nordrhein-Westfalen/

It can be gathered from this example that the international motor-car identification code precedes that of the name of the region in the respective country provided that regional circumstances requires mentioning the names of regions. The international motor-car identification code is separated from the name of the region by a hyphen, e.g. Schulbauplanung:/D-Nordrhein-Westfalen/

Example 2: Names of countries are written out in full. As regards Germany additions are necessary, e.g.

Deutschland-BRD
Deutschland-DDR

In the following, possible variations of topographical data on Germany (Deutschland, Deutschland-BRD and Deutschland-DDR), Austria and Switzerland are listed and in some cases extended by descriptors:

- a. /Deutschland/:Kindergartenerziehung)
 /Deutschland-BRD/:Bildungspolitik)
 /Deutschland-BRD/:Vorschulerziehung)
 /Deutschland-DDR/:Kindergartenerziehung) in
 /D-Baden-Württemberg/:Curriculumentwicklung) no
 /D-Baden-Württemberg/:Gesamtschulplanung) order
 /Karlsruhe/:Gesamtschulplanung)
 /D-Schleswig-Holstein/:Bildungspolitik)
 /Aachen/:Schulbauplanung)
 /D-Nordrhein-Westfalen/:Schulbauplanung)
- b. /Oesterreich/:Bildungspolitik)
 /Oesterreich/:Schulwesen)
 /A-Vorarlberg/:Bildungspolitik) in no order
 /Spittal/:Schulbauplanung)
 /A-Vorarlberg/:Schulbauplanung)
- c. /Schweiz/:Schulwesen)
 /Schweiz/:Bildungspolitik)
 /CH-Bern/:Bildungspolitik) in no order
 /Thun/:Schulbauplanung)
 /CH-Bern/:Schulbauplanung)

As to the alphabetical listing of topographical data, we require all concepts that appear in connection with a country, (e.g. Germany), to be listed under the letter D.

If all data are listed according to the mechanical sequence of words, and if the international motor-car identification code D is considered a word, the result is the following list (using the data from paragraph a.):

- /D-Baden-Württemberg/:Curriculumentwicklung
- /D-Baden-Württemberg/:Gesamtschulplanung
- /D-Nordrhein-Westfalen/:Schulbauplanung
- /D-Schleswig-Holstein/:Bildungspolitik
- /Deutschland/:Kindergartenerziehung
- /Deutschland-BRD/:Bildungspolitik
- /Deutschland-BRD/:Vorschulerziehung
- /Deutschland-DDR/:Kindergartenerziehung

The topographical date /Aachen/: Schulbauplanung, and /Karlsruhe/:Gesamtschulplanung would not be listed in this context and appear in this list under A or K, respectively.

In case the international motor-car identification code D is being handled by special provisions for the internal programme of the computer equal to "Deutschland", this would result in the following list:

/Deutschland/:Kindergartenerziehung
/D-Baden-Württemberg/:Curriculumentwicklung
/D-Baden-Württemberg/:Gesamtschulplanung
/Deutschland-BRD/:Bildungspolitik
/Deutschland-BRD/:Vorschulerziehung
/Deutschland-DDR/:Kindergartenerziehung
/D-Nordrhein-Westfalen/:Schulbauplanung
/D-Schleswig-Holstein/:Bildungspolitik

Here, too, the topographical data

/Aachen/:Schulbauplanung
Karlsruhe/:Gesamtschulplanung

would appear again in the list under A or K, respectively. The same would be true for equivalent data on Austria and Switzerland.

In order to take into account the requirements stated above, i.e. that all topographical data that refer to a certain country should be listed under the respective initial letter of the name of the country in question, a change of the corresponding rules (e.g. by means of the addition of a steering-sign) would be necessary with regard to the use of city-names, etc.

Such a change must, however, be rejected because of two reasons:

- a. Only part of those titles already stored on punched tapes could be retrieved by a computer (as far as topographical relevance goes)
- b. The present rule, i.e. that of using city-names, etc., not preceded by an international motor-car identification code, e.g. in the form

but not /Aachen/:Gesamtschulplanung
 /D-Aachen/:Gesamtschulplanung

has once been agreed upon because it was anticipated that the user would look for a place-name in the topographical list under the initial letter of the place-name but not under the initial letter of the country in question.

Both of these reasons are in favour of modifying the original requirement by way of only facilitating the listing

of those topographical data with country names written out in full as well as of regional names preceded by the international motor-car identification code at a common place in the alphabet on the topographical index.

The initial letter of the country name that is written out in full, is defined as the common place in the alphabet,

e.g. /Schweiz/:Schulwesen and /CH-Bern/:Bildungspolitik

As far as city names etc. are used as topographical data, they will be found under the corresponding place of the initial letter of the city name in question.

The above example concerning the use of topographical data, only covers part of the rules that have to be worked out on apparently minor problems. There are much more of those "minor problems" to be solved in developing a catalogue processing programme. The work being still under way, further details on other problems have to be omitted in this paper.

V. A German Information Retrieval Thesaurus on Education:
"Thesaurus Pädagogik"

by Dr. H. H. Sträter,
Pädagogisches Zentrum, Berlin.

Work on thesaurus construction began at the Pädagogisches Zentrum in July 1968. The first phase of the "Thesaurus Pädagogik" will be completed by the end of this year. The thesaurus will then be tested by practical experimentation and we hope to publish the first edition of the thesaurus by Autumn 1972.

At the beginning of the work on thesaurus construction a descriptor list of educational terms was available in German which had been in use for the "Bibliographie Pädagogik" since 1966. This German terminology was classified with the aid of the "Information Retrieval Thesaurus of Education Terms" by Barhydt, Schmidt and Chang of the Case Western Reserve University, Cleveland (1968). A translation of this thesaurus was not intended.

The "Thesaurus Pädagogik" will be in three parts:

part one: alphabetical array

part two: faceted array

part three: permuted list of descriptors.

Alphabetical Array

The alphabetical array contains all words of the thesaurus which are either descriptors or non-descriptors. Every word in the alphabetical array has a "numerical related term" which leads the user to a subfacet. Every descriptor has, in addition, other related terms and/or indicates broader/narrower term relationship.

The following reference words are used in the alphabetical array of the "Thesaurus Pädagogik":

"siehe" ("see" or "use")
"nicht benutzt" ("used for")
"verwandter Begriff" ("related term")
"Oberbegriff" ("broader term")
"Unterbegriff" ("narrower term")
"Erläuterung" ("Scope note").

Faceted Array

The main purpose of the faceted array is the control of the terminology. The faceted array allows for a control over the terminology and thus, with a high degree of certainty, prevents unreferenced synonyms or near-synonyms being incorporated into the alphabetical array during up-dating.

The faceted array also contains all words of the thesaurus; non-descriptors are marked +.

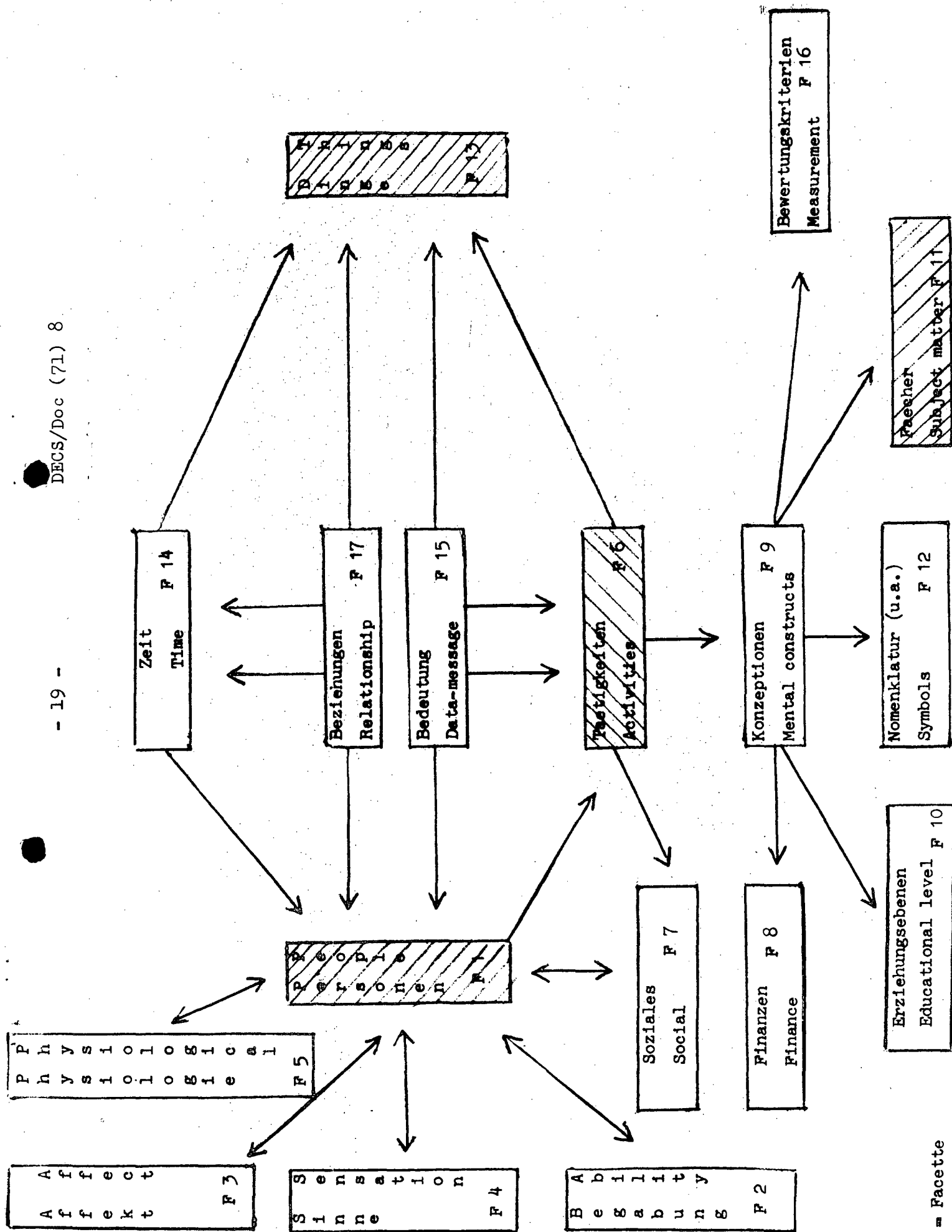
The faceted array consists of seventeen facets. An 18th facet contains all names (of persons, institutions, geographical areas ...).

The headings of the facets and subfacets are to be taken only as a rough indication of the scope of each facet or subfacet. The subfacets are further subdivided into groups of words.

Permuted List of Descriptors

The permuted list of descriptors only contains descriptors. Descriptors consisting of two words are permuted, e.g. Neue Mathematik - Mathematik, Neue, etc.

The following figure shows a survey of the main relationships among the individual facets. (The most important facets are hatched).



Abitur		Agrammatismus	
n.b. Hochschulreife		s. Aphasie	
Reifeprüfung		VB 5001	
VB 6002			
Abiturient		Akademiker	
		E'	
Abiturient		VB 1007	
VB 1002		Akademikerbedarf	
Abitur		Akademische Freiheit	
Gymnasium		Akademischer Rat	
Oberschule		Hochschule	
Schuljahr 13		Hochschullehrer	
Sonderreifeprüfung		Wissenschaftlicher Rat	
Stufenabitur			
		Akademikerbedarf	
Abneigung		VB 16 001	
n.b. Aversion		Akademiker	
VB 3001			
Abstammungslehre		Akademische Freiheit	
n.b. Deszendenztheorie		VB 7001	
VB 11 017		Akademiker	
Abstraktionsfähigkeit		Akademischer Rat	
VB 2001		VB 1007	
		Akademiker	
Adoleszens		Akustik	
OB Jugendalter		E Schallverhältnisse	
VB 5004		eines Raumes	
		VB 4004	
Adressat		Akzeleration	
VB 1011		VB 6026	
Adressatengruppe		Entwicklung	
		Retardation	
Adressatengruppe		Wachstum	
VB 1001			
Adressat		Akzent	
		s. Betonung	
Ärztliche Untersuchung		VB 4004	
n.b. Untersuchung			
VB 6011		Akzidenteller Irrtum	
Arzt		OB Irrtum	
Gesundheitspflege		VB 2005	
Schuleignungsuntersuchung			
		Algebra	
Aussere Motivation		OB Mathematik	
OB Motivation		UB Mengenlehre	
VB 3004		Wahrscheinlichkeits-	
		rechnung	
Affekt		VB 11 005	
E'			
VB 3001		Allgemeine Chemie	
Emotionale Entwicklung		s. Theoretische Chemie	
Gefühl		VB 11 017	
Motivation			
Persönlichkeit			
Temperament			

Facette 1
Sub-Facette 1006

Arzt
Krankenschwester
Medizinisch-Technischer Assistent
Schularzt

Facette 1
Sub-Facette 1007

Akademiker
Akademischer Rat
Dozent
Hochschullehrer
Professor +
Seminarleiter
Universitaetslehrer +
Wissenschaftler
Wissenschaftlicher Assistent
Wissenschaftlicher Rat

Altphilologe
Anglist
Bibliothekar
Biologe
Chemiker
Diplom-Geologe +
Diplom-Ingenieur
Diplom-Landwirt +
Diplom-Psychologe
Dolmetscher
Geologe
Germanist
Informatiker
Ingenieur
Jugendrichter
Jurist
Kybernetiker
Landwirt
Lektor
Mathematiker
Mathematisch-Technischer Assistent
Naturwissenschaftler
Neuphilologe +
Oekotrophologe
Paedagoge
Philologe
Physiker
Programmierer

Psychagoge
Psychologe
Romanist
Schulpsychologe
Sozialpaedagoge
Soziologe
Techniker
Uebersetzer +

Facette 1
Sub-Facette 1008

Angestellter
Beamter
Manager
Sekretaer

Facette 1
Sub-Facette 1009

Angelernter Arbeiter
Arbeiter
Facharbeiter
Gastarbeiter
Handwerker
Industriearbeiter
Klempner
Lehrmeister
Maurer
Mechaniker
Meister
Ungelernter Arbeiter
Zimmermann

Facette 1
Sub-Facette 1010

Militaer
Offizier
Soldat
Streitkraefte
Unteroffizier
Wehrpflichtiger

VI. Summary of talk on modern language teaching information

by Dr. Scurand

Organisation

Informationszentrum für Fremdsprachenforschung (IFS).

Location

Liebigstr. 37
D 355 MARBURG/LAHN
Germany

Aims

The Centre, affiliated with the University of Marburg, is a non-profit institution, established in April 1969 and supported by grants from the Volkswagenwerk Foundation. In 1971 it will be supported by government funds of the Land Hessen.

IFS has the following objectives:

- (1) To collect and disseminate all information about research and development in language teaching and testing.
- (2) To provide information on available teaching materials, with specific reference to audio-visual aids.
- (3) To supply university students, research personnel and language teachers with information on significant and relevant documents (reports, articles, monographs etc.) and to indicate the ready availability of such documents.
- (4) To conduct courses on audio-visual techniques in the teaching of modern languages. These courses are open to German teachers.

Information is conveyed by means of a bulletin and the publication of bibliographies and reports (state-of-the-art papers, occasional papers, etc.).

Orientation

Applied linguistics, language teaching and related fields. Main emphasis is on languages most widely taught in Germany: English, French, Spanish, Russian, and German as a foreign language.

Clientele

Educational institutions, research workers and language teachers, government agencies, professional organisations.

Acquisition of information

Central Library of Marburg University, in collaboration with Pädagogisches Zentrum, Berlin, and Internationales Zentralinstitut für das Jugend- und Bildungsfernsehen, München, and Central ERIC System.

Requests

Received by visit, correspondence and telephone. Set-up of clearing houses in Europe and in preparation.

Analysis of information

Largely through classification system employed in library, and its card catalogue. System matches Central ERIC and Educational Documentation Chain in Germany.

Research register

A collection of all audio material produced and distributed by German publishers is maintained, available for research purposes and for consultation by visitors.

Publications

Jointly with the Arbeitskreis zur Förderung und Pflege wissenschaftlicher Methoden des Lehrens und Lernens (Heidelberg).

- (a) IFS-Informationen, the Centre's newsletter, which is published four times a year.
- (b) Catalogues of audio-visual language learning materials.
- (c) Conference reports, and bibliographies of language-teaching, occasional papers, etc.

VII. Report on the documentation office of the Internationales Zentralinstitut

Für das Jugend- und Bildungsfernsehen
by M. Meyer

The Internationales Zentralinstitut für das Jugend- und Bildungsfernsehen was established as a facility of Bayerischer Rundfunk on 1 April 1965. It was supported initially by the Prix Jeunesse Foundation, and later by the Association for the Promotion of Educational Television and Television for Young People. The documentation office of the Institute was supported from the very beginning by the Volkswagen Foundation (Working Group for the Promotion and Support of Scientific Methods of Teaching and Learning). In accordance with its memorandum of foundation, the Institute does work in the following fields: television for children and young people, study programmes for adults, educational television for schools in general, vocational training schools and universities, educational television for extra-mural studies and out-of-school training, media systems, instructional technology (with particular reference to the role played by TV and radio).

The establishment of the documentation office proved to be a successful attempt at providing information on the fields named in the above for the purposes of science and research, for universities, academies and schools, young peoples' and adult education, publishing houses and journals, radio and TV stations, associations and organisations, politicians and ministries, and school organisations and authorities. It was likewise a successful attempt at providing publications in these fields. The following types of publications have been made so far: documentations on international specialised literature, compilations of programme data and exemplary projects, surveys of important developments in the fields mentioned. In addition to a great number of special bibliographies dealing with very many different subjects (congresses attended by researchers and production experts, study courses of the Council of Europe's Committee of Cultural Co-operation, seminars of the Prix Jeunesse Foundation, instruction meetings run by the College for Television and Film, etc.) six comprehensive literature documentations have been published to date on the following topics:

SCHOOL TELEVISION (S1, S2)
TELEVISION AND YOUNG PEOPLE (J1, J2)
TELEVISION AND ADULT EDUCATION (E1)
LITERATURE PUBLISHED IN THE GERMAN LANGUAGE ON
EDUCATIONAL TELEVISION (B1)

These documentations were placed at the disposal of the persons and institutions named in the foregoing. Moreover, information has been compiled on programme projects and course series broadcast in the fields of science and foreign language teaching.

An international compendium dealing with "Multi-Media Systems" was prepared on the basis of these working results and on behalf of the Council of Europe, for the IV. Study Course of the Council of Europe held in Munich from 29 April to 5 May 1970.

Further services provided by the documentation office of the Institute are to answer the written and verbal inquiries received daily (active information), to carry out organisational and management measures and tasks, and to fulfil an advisory function for supporting new television projects.

The utilisation of electronic data processing equipment for handling the specialised literature already evaluated was provided for from the very beginning. For this purpose it was initially necessary to develop rules and directives for entering titles "in machine language". These rules were established in co-operation with the Documentation Office for Modern Media and the Central Office for Mechanical Documentation in Frankfurt. Thanks to this development it is possible to feed data into EDF equipment by means of a punched card writer. At the beginning of 1969 a preliminary computer documentation programme was developed with the help of the Leibniz Computer Centre at the Munich College for Advanced Technology (Technische Hochschule), which placed its EDF equipment at the disposal of the Institute for a compensation fee. The initial result of this work is constituted by the Bibliography "J2 Television and Young People" this being the first computer script with the usual indices (index of authors and of keywords). In addition, the references in this publication were arranged automatically according to systematic groups, so that it is possible to look up the contents of the works listed in two different ways.

At present we are attempting to enlarge the documentation programme, so as to form a genuine research programme. This task will presumably be completed by the beginning of 1972. This will then provide a fully automatic documentation project in respect of the formal intake, storage, and output of data. By means of the various systems applied for the entry of titles, the user will be able to conduct a great many different checking and research operations. The most important factors for entry will be the author, title, reference, year of publication, place of publication, etc.

For documentation work on programmes and programme projects in the field of educational television and television for young people - and especially in the field of media compound systems - directives are being developed according to international standards. Preparations are also being made for the mechanical processing of the relevant data at a later date. However, the possibilities of applying automatic systems depend on the methods chosen for evaluating and processing the relevant literature. Initially, we compiled contents categories very often, apart from the system of applying keywords. These contents categories present the problem of having to develop and enlarge a suitable ordering and arrangement system, i.e. a thesaurus, on which work is being done at present. The relatively novel subjects we have been asked to deal with have so far not been treated systematically or determined in any way on a scientific basis, and this will probably not be done in the very near future. In addition, several different scientific disciplines (pedagogics, psychology, sociology, medicine, communication research, etc.) deal with the television media in the light of their particular scope, so that it appears quite out of the question to provide a uniform definition of terms right from the outset, these definitions being binding for all the fields of study listed. The pragmatistical approach we have made at establishing an unsystematic catalogue of keywords as a preliminary step preceding a thesaurus has proven its value in practical application. In order to keep up with current development, the system compiled must constantly be supplemented and improved. The objective of the arrangement work is to make that literature available to a person, that he really needs for solving his specific problem. It is attempted as far as possible to avoid the provision of redundant information or insufficient material. In this context we should like to refer to the task and purpose underlying all documentation projects: to provide as much working data as possible on a certain subject, to guarantee an appropriate method of breakdown and arrangement, to ensure correct evaluation and storage of data, and to present the possibility of calling on the data required at short notice and making the desired information available.

VIII The documentation activity of the Deutsches Jugendinstitut

by Rudolf A.M. Mayer

1. The thematic range

The thematic range of the Deutsches Jugendinstitut's documentation activity is adjusted to the demands which derive from the institute's functions like research, advising and documentation and includes

- (i) sociological children and adolescent research including pedagogics, particularly social pedagogics, socialisation in early childhood;
- (ii) youth service, youth work and specific problems related with other areas of socialisation such as school and work as well as staff problems;
- (iii) youth policy, specific problems of educational and subventional policy and juvenile rights.

In addition to the roughly sketched thematic range, information and data are gathered from other thematically relevant areas (see classification - enclosure 1).

2. Addressees and demanders of information are such institutions and persons with responsibilities and active in areas determined by the thematic range:

- (i) sociologists working on problems related with children and adolescents (including educators, physicians, etc.) and students of these faculties;
- (ii) students in pedagogic academies, in colleges for social work and social pedagogics, in technical schools for social pedagogics, persons participating in continuation studies, etc.
- (iii) institutions and persons active in the field of youth service, particularly in youth welfare offices (communal youth offices), in welfare organisations, youth organisations, teachers in regular schools and schools for backward children, educators in homes and persons active in probation services;
- (iv) institutions and persons active in youth policy, particularly the BMJFG (Federal Ministry of Youth, Family and Health), ministries of the different states of the Federal Republic, associations for youth service and youth work (such as AGJJ, DBJR).

3. Categories of materials and information

- 3.1 An essential part of the institute's documentation activity consists in finding new literature in the thematically outlined areas.
- 3.2 Moreover the various addressee groups have a demand for specific documentation services like
 - (i) catalogues of current research projects for social scientists, including the institute's scientific staff
 - (ii) model documentation for practical purposes in order to provide early information on experiments and experiences with social and educational models.
- 3.3 In addition specific bibliographies (for example on preschool education and student protests) and literature reports on special topics are compiled.

4. Documentation on literature

- 4.1 Since 1964 the Deutsches Jugendinstitut's documentation on literature is prepared on punched tape, since 1968 it is prepared additionally according to the Dokumentationsring's rules for producing machine-readable titles in the "Bibliographie Pädagogik" and to do preparatory work for a general data centre within the framework of the Dokumentationsring.
- 4.2 The quantity of accumulated literature information is shown as follows (state April 1971):
 - (i) up to 1964 no punched tape
 - (ii) 1964-67, 9,400 titles on punched tape and card file
 - (iii) as of 1968, 4,000 titles on punched tape, 2,300 of them with abstracts
 - (iv) 180 regularly evaluated periodicals, approximately 30 of them being foreign.
- 4.3 For compiling literature the institute presently employs a documentation team consisting of three sociologists, two social pedagogues (from a college for social pedagogics) and one lawyer.

This team selects and evaluates the literature according to regulations developed by the Deutsches Jugendinstitut.

- 4.4 A technical documentation section is responsible for the technical processing according to the rules of producing machine-readable titles. Catalogue cards and stencils for the publications are also produced by this section. The literature categorise books and documents are compiled by analogy with the classification system which is also standard for the preparation of catalogues.
- 4.5 The retrieval of literature is presently done manually on various catalogues (catalogue of authors, systematic catalogue, key-word catalogues and catalogues of numbers).
- 4.6 The documentation "Jugendforschung, Jugendhilfe, Jugendpolitik" (Youth Research, Youth Service, Youth Policy), issued three times a year, consists of a literature selection corresponding to one quarter (approximately 800 titles a year) of the total analysed literature. It is to be seen as a "special documentation with contents analysis" within the framework of documentation services rendered by the "Dokumentationsring Pädagogik".

An unpublished key-word list was worked out on the basis of the enclosed systematic list. A complete thesaurus is in preparation.

The two year cumulation index (authors, key-words) also replaces the alphabetical key-word index until a systematic key-word list (thesaurus) is published.

The issue A makes it possible to produce general or special catalogues by taking apart the DIN A 6 fiches.

The titles are arranged in a way which makes it possible to also produce title cards corresponding to the international library size.

The addition of this documentation presently consists of 1,400 copies, approximately 1,100 being subscription copies.

5. Present problems and planning

Since the institute's documentation activity has to be concentrated and restricted to relevant aspects in the scientific branch and in practical as well as political areas regarding children and adolescents, a complete literature selection in all thematic areas is impossible. Therefore various problems arise, namely regarding

- (i) the selection of material as well as
- (ii) the selection of addressee groups.

As a result of basic consideration the relevance of information on real problems in the scientific branch, in practice and policies was taken as criterion for the institute's information policy.

Target for this information would then be those social groups with a great innovation potential regarding necessary changes in the specific areas of practice and of political fields. The lack of built-up structure, however, which is encountered regarding the innovation potential in the area of youth service and youth policy complicates the realisation of the mentioned guide-lines.

For this reason the Deutsches Jugendinstitut's documentation activity receives an additional task: to examine the mobility and innovation potentials and to develop techniques for mediating information in a way which adequately corresponds to the demands.

Gliederung	Fachbereiche
A. 1 Kinder- und Jugendforschung	Kinder- und Jugendforschung Jugendpsychologie Jugendsozialpsychologie Jugendsoziologie Pädiatrie
A. 2 Sozialwissenschaftliche Grundlagen	Sozialwissenschaften Wissenschaftstheorie Methoden Systemtheorie Anthropologie Kulturanthropologie Gesellschaftstheorie
A. 21 Psychologie	Allgemeine Psychologie Entwicklungspsychologie Persönlichkeitsforschung Psychodiagnostik Tiefenpsychologie Psychohygiene Psychotherapie-Guidance Pädagogische-Psychologie Forensische Psychologie
A. 22 Sozialpsychologie	Sozialpsychologie Einstellungsforschung Politische Psychologie Verhaltensforschung Abweichendes Verhalten Kommunikationsforschung Gruppendynamik Gruppenstruktur Familienpsychologie Berufspsychologie Betriebspsychologie
A. 23 Soziologie	Allgemeine Soziologie Familiensoziologie Bildungssoziologie Organisationssoziologie Industrie- und Betriebssoziologie .. Berufssoziologie Soziologie der Kriminalität Demographie Ethnologie

Gliederung	Fachbereiche
A. 23 Soziologie (Fortsetzung)	(sonstige spezielle Soziologien). Gemeindesozio­logie Soziologie der Sexualität Medizinsoziologie Religionssoziologie Soziologie der Frau Wissenssoziologie Politische Soziologie Rechtssoziologie
A. 24 Sozialmedizin	Medizin allgemein Arbeitsmedizin Sozialmedizin Sozialhygiene Psychopathologie Psychosomatik Psychiatrie Sozialpsychiatrie Behinderungen
A. 25 Pädagogik - Erziehungs- wissenschaften - Erziehungslehre - Erziehungs- philosophie	Pädagogik Erziehungswissenschaft Pädagogische Theorie Pädagogische Forschung Erziehungslehre Familienpädagogik Kleinkindpädagogik Sozialpädagogik Wirtschaftspädagogik Religionspädagogik Erwachsenenbildung Heilpädagogik Erziehungsphilosophie Pädagogische Anthropologie
B. 1 Jugendhilfe allgemein	Jugendhilfe Strukturfragen Einrichtungen der Jugendhilfe ... Sozialhilfe Sozialarbeit
B. 11 Theorie der Jugendhilfe	Jugendhilfeforschung Jugendhilfetheorie Theorie der Sozialarbeit
B. 12 Geschichte der Jugendhilfe	Geschichte der Jugendhilfe
B. 13 Institutionen und Organisationen der Jugendhilfe	Organisationen der Jugendhilfe .. Öffentliche Träger Freie Träger Internationale Organisationen ...

Gliederung	Fachbereiche
.....	
B. 2 Jugendhilfe (ausser Jugendarbeit)	Familienhilfen Gesundheitshilfen Rehabilitation
B. 21. Beratung	Beratung Beratungsdienste
B. 22. Vormundschaft Pflegekinderwesen Adoption	Vormundschaft Pflegekinderwesen Adoption
B. 23 Erziehungs- beistandschaft Freiwillige Erziehungshilfe Fürsorgeerziehung	Erziehungsbeistandschaft Freiwillige Erziehungshilfe Fürsorgeerziehung
B. 24 Kleinkinderziehung	Kleinkinderziehung Vorschulerziehung
B. 25 Heimerziehung	Heimerziehung
B. 26 Heilpädagogik	Heilpädagogische Massnahmen Behindertenhilfen
B. 27 Jugendgerichtshilfe Bewährungshilfe Hilfen im Jugend- strafvollzug	Jugendgerichtshilfe Bewährungshilfe Hilfen im Jugendstrafvollzug
B. 28 Jugendschutz	Jugendschutz Kinderschutz
B. 3 Jugendarbeit Jugendbildung (Jugendpflege)	Jugendarbeit Jugendbildung Freizeiterziehung Mädchenbildung Geschlechtererziehung
B. 31 Offene Jugendarbeit	Offene Jugendarbeit
B. 32 Jugendverbandsarbeit	Jugendverbandsarbeit Jugendverbände Jugendringe
B. 33 Internationale Jugendarbeit	Internationale Jugendarbeit
B. 34 Gesellschaftlich- politische Erziehung	Gesellschaftlich-politische Erziehung Sozialerziehung Rechterziehung Verkehrserziehung
B. 35 Religiöse Erziehung	Religiöse Erziehung

Gliederung	Fachbereiche
B. 36 Kulturelle und musische Bildung	Kulturelle Bildung Literaturerziehung Musische Bildung Musikerziehung Kunsterziehung Medienerziehung
B. 37 Gesundheit Sport, Erholung, Reisen	Gesundheitserziehung Leibeserziehung Jugendsport Jugenderholung Jugendtourismus
B. 4 Jugend in Ausbildung und Arbeit Jugendberufshilfe	Ausbildungssystem
B. 41 Schule	Schule Schulerziehung Hochschule Schulpsychologische Beratung Sonderschulpädagogik
B. 42 Berufsausbildung	Beruf Berufsausbildung Berufsvorbereitung Berufserziehung Berufsfortbildung
B. 43 Erwerbstätigkeit	Berufstätigkeit Arbeitswelt
B. 44 Jugendberufshilfe	Jugendberufshilfe Jugendsozialarbeit
B. 45 Wehrdienst	Wehrdienst
B. 5 Aus- und Fortbildung der Mitarbeiter Mitarbeiterfragen	Mitarbeiterfragen
B. 51 Ausbildung	Mitarbeiterausbildung
B. 52 Fortbildung	Mitarbeiterfortbildung
B. 53 Bedarf	Mitarbeiterbedarf
C. 1 Gesellschaftspolitik	Gesellschaftspolitik
C. 11 Allgemeine Fragen	Familienpolitik Gesundheitspolitik

Gliederung	Fachbereiche
.....	
C. 12 Kultur, Bildungs- und Erziehungspolitik	Kulturpolitik Bildungspolitik Erziehungspolitik
C. 13 Schul- und Hochschulpolitik	Schulpolitik Hochschulpolitik Wissenschaftspolitik Forschungspolitik
C. 14 Sozialpolitik	Sozialpolitik Arbeitsmarktpolitik Sozialplanung
C. 2 Struktur- und Förderungspolitik	Strukturpolitik Förderungspolitik Finanzierung
C. 21 Allgemeine Fragen der Jugendpolitik	Jugendberichte Jugendpolitik Öffentlichkeitsarbeit
C. 22 Jugendpläne	Jugendpläne
C. 23 Besondere Förderungsmassnahmen	Ausbildungsförderung Studienförderung Fortbildungsförderung
C. 3 Jugendrecht	Jugendrecht
C. 31 Verfassungsrecht	Verfassungsrecht Grundrechte
C. 32 Familienrecht	Familienrecht Eherecht
C. 33 Jugendhilferecht	Jugendhilferecht Jugendwohlfahrtsrecht Jugendgerichtshilferecht Jugendschutzrecht Arbeitsrecht Sozialhilferecht
C. 34 Jugendstrafrecht	Strafrecht Jugendstrafrecht Jugendstrafvollzug Kriminologie

Gliederung	Fachbereiche
.....	
C. 4 Bedarfsforschung	Bedarfsforschung
C. 41 Allgemeine Fragen	Jugendhilfeplanung
	Regionalplanung
C. 42 Jugendhilfe- statistik	Jugendhilfestatistik
C. 43 Nomenklatur	Nomenklatur
C. 44 Jugendbauten	Jugendbauten

IX. Summary of talk on Fernstudientechnologie: a comparative study on information flow

by Dr. Wolfhart Anders
Alexandra Draxler

During the course of our work at the DIFF we noticed that both through the types of questions we had from interested people from outside the DIFF and through contact with members of the project teams there seemed to be a marked need for better dissemination of information in the whole field within which we work. We therefore began a study on the flow of information in remote study, specifically related to the use of educational technology, in order to design a set of criteria and recommendations for the implementation of a plan to improve information flow in this area. Although there are many problems specific to educational technology within this study, we believe that most of our working assumptions and findings might be generaliseable to the flow of educational information in general.

Our study deals with an area termed in German "Fernstudientechnologie". We used this term to differentiate the use of technology in remote study from the broad field of educational technology, mainly because we originally felt that a distinction should be made between remote study and other types of educational endeavours for our purposes. We have found, as we progressed, that this distinction is less and less meaningful. At present we use it only for limiting our area of work for this pilot scheme.

The study is designed in three phases: the first was to be a general survey of the literature and the activities of other centres in the dissemination of educational information; the second a profile analysis of the potential users of information about "Fernstudientechnologie"; and the third the design of a pilot scheme.

During our work in the first phase we formulated a number of working assumptions which we have used as a basis for continuing the design of the pilot scheme:

1. Information is a resource. It should therefore be generated and provided to meet actual user requirements.
2. Information needs might not always be perceived by the user.

3. All information systems are evaluative, if only because the use of a storage system is in itself a method of evaluating information; it is our feeling that the most efficient system would be highly evaluative and selective.
4. Information systems must not only respond to specific demands made upon them but also act to initiate information.
5. Information systems have a powerful but so far largely untapped potential as distributors of educational innovation.
6. It is essential that an information system be highly adaptive and provide for the obtaining and incorporation of constant feedback from the users.
7. To permit an eventual rationalisation of the system of educational documentation a system should relate and be compatible with other national and even foreign services.

In the second phase of our study we began to analyse the potential users of information about "Fernstudientechnologie". We have made a breakdown of the task areas into research, "Bildungsplanung" and "Bildungspolitik", course design and production, evaluation and testing, teaching, information dissemination, and management. The members of the target group will do work in these areas in diverse jobs which combine, perhaps, several functions. In order to assess their needs we plan, in addition to informal inquiries in the DIFF and consultations with experts, a formal questionnaire which will be sent to some five-hundred people in the Federal Republic. It will be partly structured with space for free responses in each section.

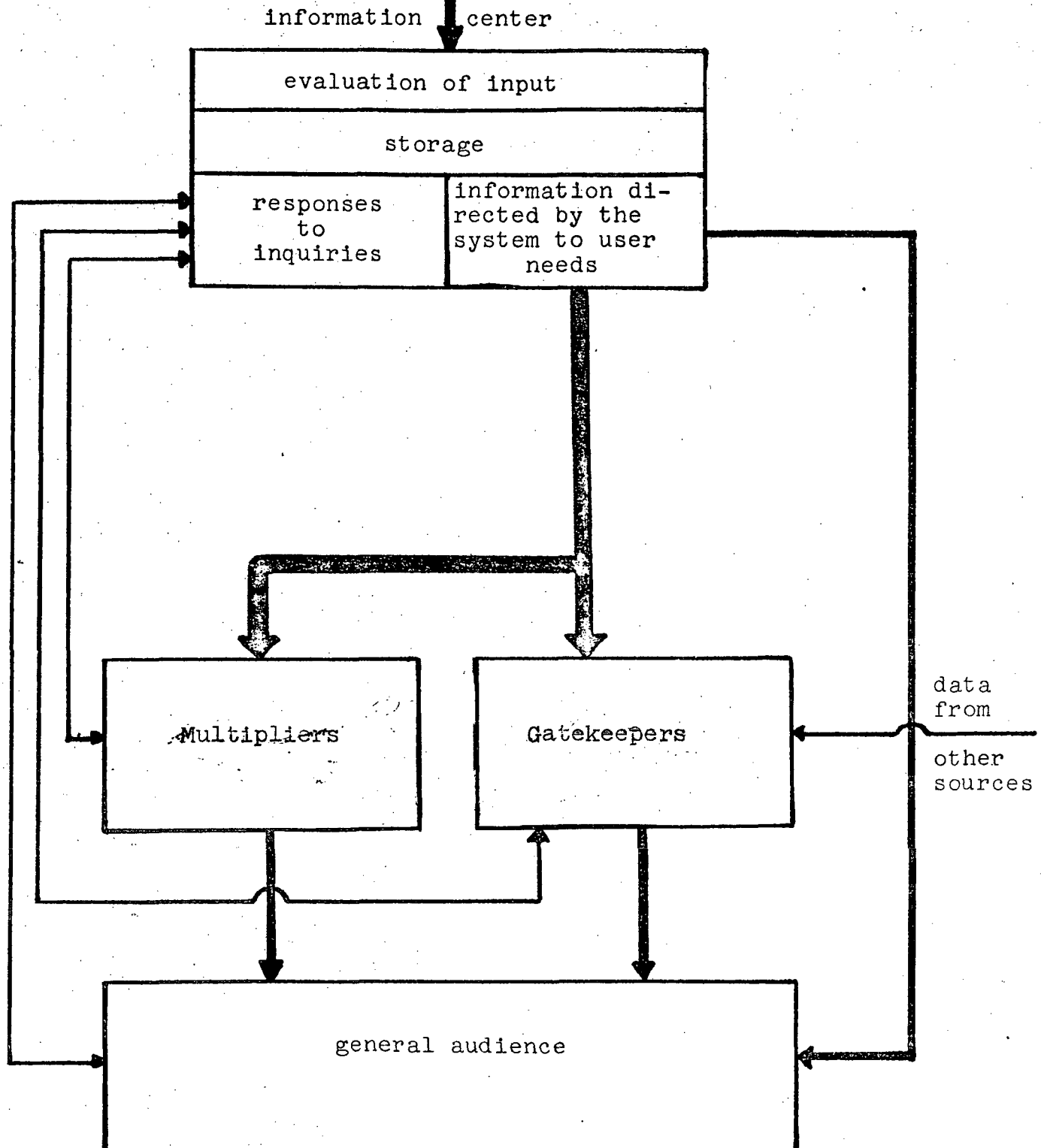
The objectives of the questionnaire are:

- (i) To develop in more complete form an outline of the content of the field of remote study.
- (ii) To characterise the specific task functions of the respondents.
- (iii) To obtain a profile of the information needs felt by the respondents.
- (iv) To collect data on the users of information and their functions in facilitating the flow of information.

- (v) To find out what sources of information are currently used by the respondents.
- (vi) To find criteria for evaluating the unstructured material and data.
- (vii) To obtain knowledge about the most effective methods for disseminating information.

Although we do not want to prejudice the results of the questionnaire, we are nevertheless convinced that there are certain areas which must be heavily emphasised. One of these areas is that of information about available course material; there is widespread interest and awareness here and in the USA about the need for more comprehensive information about new course materials, particularly of the kind developed in flexible modules. It is our feeling that information on learning material will be one of the focal points of the results of our study.

unstructured
data



information flow: a diagram