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ORIENTATION OF EDUCATORS AND BEHAVIORAL SCIENTISTS TO INFORMATION SYSTEMS. FINAL REPORT.

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The project was designed to orient educators and behavioral scientists to information systems capable of supplying work-related data. This goal was accomplished in two ways: (1) a series of seminars was held at the annual conventions of the American Sociological Association, the American Psychological Association, the American Vocational Association, and the American Educational Research Association, and (2) a handbook of information sources in education and the behavioral sciences was developed. Seminar content included discussions of information flow use phases and purposes in seeking information, system-user interfacial characteristics and projected future trends in information systems. The handbook includes sections on guides and directories, multidisciplinary information centers, specialized information centers, data repositories, and abstracting and indexing services. (Author)

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**FINAL REPORT**

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE  
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U.S. Department of  
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**Jesse L. Gates  
James W. Altman**

**May 1968**

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**American Institutes for Research  
Pittsburgh, Pennsylvania**

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## INTRODUCTION

Rapidly increasing outputs of information from the scientific community have made it increasingly difficult for personnel in any field to keep up with the literature relevant to their interest areas. Various agencies designed to alleviate this situation have been established, but the problem of making potentially interested persons aware of these developments remains. This project was designed to make persons in the fields of education and the behavioral sciences more aware of the array of information services currently available.

## METHOD

A series of seminars was held at the annual conventions of the American Sociological Association (ASA), the American Psychological Association (APA), the American Vocational Association (AVA), and the American Educational Research Association (AERA), and a handbook of information resources in education and the behavioral sciences was developed (Gates & Altman, 1968).<sup>1</sup>

Seven seminars were held, two each at the American Sociological Association (31 August 1967), the American Psychological Association (5 September 1967), and the American Educational Research Association (7 February 1968), and one at the American Vocational Association (2 December 1967) conventions. Each seminar included a verbal presentation and handout materials which approximated the level of development of the handbook at the time the seminar was held.

The verbal presentations were comprised of material drawn from three major areas:

1. Theoretical discussions of and models of information transfer.
2. Operational and system-user interfacial characteristics of information systems.

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<sup>1</sup>Gates, J. L., & Altman, J. W. Handbook of information sources for education and the behavioral sciences. Pittsburgh: American Institutes for Research, May 1968.

3. Discussion sessions involving analysis of seminar participants' experiences in seeking and using information.

At each seminar, participants were asked to complete a form designed to assess their reaction to and evaluation of the seminar. A copy of this form is included as Appendix A.

## RESULTS

### The Seminars

Participant reactions to the seminars were assessed by using evaluation forms at each session. A complete summary of the comments made on these forms appears in Appendix B, but a brief synopsis of the more cogent features of these comments will be made here.

Participants at the ASA and APA seminars aimed most of their complaints at the introductory material, which was essentially a theoretical discussion of information processes and operations. Forty-seven percent of the 82 participants completing the evaluation forms indicated that part of the presentation was too simple or obvious, with the majority of the comments being leveled at the introductory material. All participants indicated that the material presented at the seminars would be useful in their work. Positive answers to the other questions showed little commonality, being for the most part expressions of personal preference.

Twenty-three persons completed the evaluation form at the AVA seminar. All indicated that the information presented at the seminar would be useful in their work. Six responses specified a desire for a seminar presentation of other than the straight lecture type; audio-visual aids were mentioned specifically five times and a general suggestion for nonlecture delivery once. Seven persons expressed a desire for the inclusion of additional material, although, as was the case with many of the responses at the ASA and APA seminars, there was no distinct commonality of response. Other comments following affirmative answers on the AVA evaluation forms were likewise individual in content.

Thirteen participants filled out forms at the AERA seminars. Again, all indicated that attending the seminar would be an aid to their work. Six persons suggested items which they thought should

have been included in the seminar; again, no two responses were the same. There was no other specific area of discussion.

### The Handbook

The material contained in the handbook consists of descriptions of various types of information sources. At one time or another all of the following sources were considered for inclusion in the handbook:

1. Guides, directories, and handbooks.
2. Periodicals.
3. Multidisciplinary information centers.
4. Specialized information centers.
5. Research centers with information dissemination capabilities.
6. Specialized libraries.
7. Data repositories.
8. Indexing and abstracting services.

The guides and directories section now includes only those books which serve to refer readers to primary sources of information. Books which are primary sources in themselves are, of course, too numerous to be included in the handbook.

Periodicals have not been included in the final form of the handbook because an exhaustive listing of these sources is beyond the scope of the project. Also, guides and directories to these sources presently exist as standard library reference materials, and these books have been included in the guides and directories section of the handbook. An abstracting and indexing services section, which is actually a listing of particular types of periodicals, is included since abstracts and indexes facilitate screening and maintaining current awareness.

Those agencies which are essentially research centers with information dissemination capabilities have been incorporated into the specialized information centers section. There is no clear line

of delineation between the two types of services, the only differences being in the range of services provided. The distinguishing characteristic of the agencies included in this section is that each disseminates information dealing with a comparatively narrow area in the behavioral sciences and education.

As with periodicals, specialized libraries were not included in the final form of the handbook because listings of such organizations are available in standard library reference materials. An exhaustive listing of these libraries would also be beyond the scope of the handbook. Volumes listing libraries are included in the guides and directories section.

The final version of the handbook, therefore, contains five sections:

1. Guides and Directories, which are intended to augment the information sources contained in the handbook. These books provide information which is beyond the scope of the handbook and which may suggest valuable sources of supplementary data.
2. Multidisciplinary Information Centers, which are those facilities designed to collect and disseminate information from a wide range of scientific disciplines. The most salient point of differentiation between multidisciplinary information centers and libraries is the concentration of the former on particular types of informational source classes and formats.
3. Specialized Information Centers, which are those facilities designed to collect and disseminate information pertaining to a single scientific discipline or field of interest. Specialized information centers differ from specialized libraries in that they tend to (a) concentrate on particular source classes and formats of information; (b) structure collection, processing, and dissemination operations in a manner conducive to minimizing publication lag times; and/or (c) produce data formats specifically designed to facilitate certain informational operations.
4. Data Repositories, which are those facilities designed to collect and disseminate raw data. They may process raw data or collect and compile processed data.



5. Abstracting and Indexing Services, which are those publications designed to abstract and/or index pre-existing documents.

## DISCUSSION

It would appear from the data gained from the evaluation forms that both the seminars and the handbook (at least the prototype handbooks distributed at the seminars) were positively received by seminar participants. The comparatively high incidence of criticism at the ASA and APA seminars can be attributed to two probable causes. First, the strictly lecture-type delivery undoubtedly left many questions unanswered. Secondly, the lack of previous experience of the project staff in presenting a seminar on this particular topic may have engendered a seminar which dealt with subjects inherently uninteresting to attendees. Both of these conditions were substantially alleviated in the succeeding seminars.

Experiences at the seminars indicated that participants were most interested in three aspects of the seminar. Participant comments, both written and oral, seemed to establish that the most valuable information to be gained at the seminars was the names, addresses, and descriptions of information agencies. Many attendees requested a more complete listing of one or another of the types of services described in the handouts. The prototype handbook which formed the bulk of the handout materials at each seminar was very popular with the participants. At the AVA seminar, 30 participants took 60 sets of handouts; 150 sets were taken to the AERA convention, and only 25 left at the end of the sessions--this with a total of 25 persons attending the seminars.

Another area in which participants seemed particularly interested was that dealing with projected future trends. Most of these trends dealt with facets of information processing which bear directly on the system users' role in the operation. Items potentially affecting the individuality of system response to user request received much attention, as did the discussion of data repositories, which seemed to interest participants in that it shows the promise of improving the availability of raw data.

A third area which prompted participant reaction was evaluation, both of individual services themselves and of the information handled by these services. Attendees indicated that information services would be more attractive if the adequacy of their information handling processes could in some way be ascertained. The

problem of differentiating good data from bad is, of course, not unique to the types of information systems discussed at the seminars, but considerable interest in this area was expressed.

### CONCLUSIONS, IMPLICATIONS, RECOMMENDATIONS

Experiences throughout the project have indicated that the seminars were helpful. Their coverage of the potential audience was, of course, low. Participants generally felt that attending the seminars gave them some insight into the capabilities of information systems in dealing with their individual informational needs, which was the essential purpose of the seminars.

A useful adjunct of the seminars was their provision of feedback necessary to mold the format and content of a handbook which would most succinctly reflect the desires of its potential users. Since the most important product of the seminars was, in the eyes of participants, the descriptions of information sources given in the handout materials, the construction of a handbook describing information sources would seem to be the most important product of the project. Participant comments and discussion at seminar sessions allowed the project staff to construct a handbook consistent with the interest areas of those likely to use it, thus increasing the potential effectiveness of the handbook and the project as a whole.

There was at least one topic discussed at the seminars--the evaluation of services and the information they process--which participants felt should have been covered more thoroughly. The consensus of opinion was that information systems would be appreciably more attractive to users if (1) the users could be assured that the systems would meet certain criteria for effectiveness in the collection, processing, and dissemination of data; and (2) the systems would provide an evaluation of the data they disseminate.

## SUMMARY

The project was designed to orient educators and behavioral scientists to information systems capable of supplying them with work-related data. This orientation was accomplished in two ways: (1) a series of seminars was held at the annual conventions of the American Sociological Association, the American Psychological Association, the American Vocational Association, and the American Educational Research Association, and (2) a handbook of information sources in education and the behavioral sciences was developed. Content of the seminars included material on theoretical discussions of and models of information transfer, operational, and system-user interfacial characteristics of information systems, and discussion sessions involving analysis of seminar participants' experiences in seeking and using information. The handbook is comprised of sections on guides and directories, multidisciplinary information centers, specialized information centers, data repositories, and abstracting and indexing services. Participants at the seminars expressed particular interest in three aspects of the seminars: (1) names, addresses, and descriptions of information sources and services; (2) projected future developments in information services; and (3) the evaluation of information services and the material they process. All participants indicated that information gained at the seminars would be helpful in their work.

**APPENDIX A**  
**EVALUATION FORM DISTRIBUTED TO SEMINAR PARTICIPANTS**

**A-1**

ASSESSMENT OF PRESENTATIONS RELATING TO  
INFORMATION SOURCES IN THE BEHAVIORAL SCIENCES AND EDUCATION

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Organizational affiliation: \_\_\_\_\_

Do you expect to find the information in the presentation useful in your work?

Yes            No

If yes, in what ways?

Was any of the information in the presentation too simple or obvious?

Yes            No

If yes, what information?

Was any of the information in the presentation too advanced or complex?

Yes            No

If yes, what information?

Were there any kinds of material missing from the presentation that you feel might be useful to you?

Yes            No

If yes, what types of material? (Please indicate in what ways each type could be of use.)

Was any of the material unnecessarily detailed or redundant (other than reported by you above)?

Yes            No

If yes, what types of material?

Are there any ways in which the presentation could have been appreciably more effective (other than indicated by you above)?

Yes            No

If yes, in what ways?

Please make any additional suggestions or comments which you feel might be helpful in the preparation of future presentations, either of this general type or through different media:

THANK YOU FOR YOUR COOPERATION

**APPENDIX B**  
**SUMMARY OF EVALUATION FORM RESPONSES**

### SUMMARY OF EVALUATION FORM RESPONSES

1. Do you expect to find the information in the presentation useful in your work?

	<u>Yes</u>	<u>No</u>	<u>No Response</u>
A. ASA Morning Session (N=12)	12	0	0
B. ASA Afternoon Session (N=13)	13	0	0
C. APA Morning Session (N=30)	30	0	0
D. APA Afternoon Session (N=27)	27	0	0
E. AVA Session (N=23)	23	0	0
F. AERA Morning Session (N=6)	6	0	0
G. AERA Afternoon Session (N=7)	<u>7</u>	<u>0</u>	<u>0</u>
Total	118	0	0

2. Was any of the information in the presentation too simple or obvious?

	<u>Yes</u>	<u>No</u>	<u>No Response</u>
A. ASA Morning Session	8	4	0
B. ASA Afternoon Session	8	5	0
C. APA Morning Session	15	13	2
D. APA Afternoon Session	7	17	3
E. AVA Session	4	19	0
F. AERA Morning Session	1	6	0
G. AERA Afternoon Session	<u>0</u>	<u>6</u>	<u>0</u>
Total	43	70	5

3. Was any of the information in the presentation too advanced or complex?

	<u>Yes</u>	<u>No</u>	<u>No Response</u>
A. ASA Morning Session	0	12	0
B. ASA Afternoon Session	0	13	0
C. APA Morning Session	2	26	2
D. APA Afternoon Session	1	25	1
E. AVA Session	1	22	0
F. AERA Morning Session	0	7	0
G. AERA Afternoon Session	<u>0</u>	<u>6</u>	<u>0</u>
Total	4	111	3



4. Were there any kinds of material missing from the presentation that you feel might be useful to you?

	<u>Yes</u>	<u>No</u>	<u>No Response</u>
A. ASA Morning Session	0	12	0
B. ASA Afternoon Session	8	3	2
C. APA Morning Session	14	13	3
D. APA Afternoon Session	10	14	3
E. AVA Session	7	16	0
F. AERA Morning Session	3	3	1
G. AERA Afternoon Session	<u>3</u>	<u>2</u>	<u>1</u>
Total	45	63	10

5. Was any of the material unnecessarily detailed or redundant (other than reported by you above)?

	<u>Yes</u>	<u>No</u>	<u>No Response</u>
A. ASA Morning Session	2	9	1
B. ASA Afternoon Session	5	7	1
C. APA Morning Session	5	22	3
D. APA Afternoon Session	3	23	1
E. AVA Session	4	19	0
F. AERA Morning Session	0	6	1
G. AERA Afternoon Session	<u>0</u>	<u>6</u>	<u>0</u>
Total	19	92	7

6. Are there any ways in which the presentation could have been appreciably more effective (other than indicated by you above)?

	<u>Yes</u>	<u>No</u>	<u>No Response</u>
A. ASA Morning Session	6	4	2
B. ASA Afternoon Session	7	4	2
C. APA Morning Session	14	13	3
D. APA Afternoon Session	14	12	1
E. AVA Session	7	16	0
F. AERA Morning Session	1	4	2
G. AERA Afternoon Session	<u>2</u>	<u>3</u>	<u>1</u>
Total	51	56	11