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ABSTRACT

The initial report of the National Research to Development Network for Public School Programs for the Hearing Impaired provides a review of objectives and process in educational research, a description of the network, and descriptions of three completed or ongoing projects. A brief history of educational research and development precedes a discussion of traditional models of school-university cooperation. Contrasted is the discursive model of interactive research which stresses reciprocity between the researcher and the researched. A seven-step process which involves participants in effective educational research is proposed to include: (1) problem identification; (2) problem definition; (3) preliminary research; (4) project development; (5) project review; (6) the pilot project; and (7) proposal development and external funding. Described next is the network of 16 programs (mostly city or county-wide school systems) providing data for a longitudinal study of public school programs. A completed project to improve writing skills of hearing impaired students through use of dialogue journals is briefly described as are ongoing projects in the areas of social and emotional adjustment of hearing impaired students and postsecondary planning. Information is also provided on putting the research team together and practical problems in implementing a discursive model of research. Includes 10 references. (DB)

National
Research to
Development
Network for
Public School Programs
for the
Hearing Impaired

PROGRESS REPORTS

Report # 1 *March, 1989*

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Introduction

Cohen and Garret (1975), in a review of the history of social policy research with specific reference to the study of education, concluded that the impact of educational research tends to be in the area of broad assumptions rather than in specific decisions, that improvements in research methods do not necessarily result in improvements in research results, that is, greater agreement within the field, and that educational research does not produce increases in the objective information base. More recently, writers such as Mosenthal (1985) have tried to justify this third conclusion on the basis of the question of the true effects of educational research. While such further definition of the probable outcomes of educational research is in fact useful, it does not mitigate the obvious fact that educational research results often do not expand the specific knowledge base.

Much concern has been devoted over the past few years to the methods of research and whether or not they are "effective" in the sense of producing educational innovations. The discussion has in fact reached the point where distinctions are being made about what "effective" means (Mosenthal, 1985) with differing interpretations of the effectiveness of research producing different assessments of what research is "useful". An issue that tends to become lost in this discussion is why the research is being done in the first place. Ultimately, research is conducted in education to change practice in some fashion with the hope that the change in practice will result in some benefit.

Assuming that the purpose of educational research is to produce a change in educational practice, there are several possible conceptualizations of the need for change: the historic or progressive tradition, the business or efficiency model, and the radical argument which is sometimes based on concepts drawn from Hegelian dialectics. The historic or progressive perspective of school change harkens back to the original reasons for free public education in the United States, that is, the Jeffersonian argument of the need for an educated electorate which would permit the republic to function as it should. As the definition of the electorate has changed since the founding of the country, so also have the definition of the goals of schooling which has in turned confused as well as motivated the definition of appropriate change in the schools. The efficiency motivation for school change is of more recent vintage in the sense that it finds its roots in the turn-of-the-century progressive social reformers and was expressed by Elwood Cubberly in his "school efficiency" books. More recently it has been taken up by the Reagan administration in the form of the Office of Educational Innovation, partially in its original form and partially as a cloak for promoting specific educational intervention schemes. The third current motivation for educational change comes out of a view of the need for the enfranchisement of the powerless with the resultant dialectical need for struggle. While this does not represent a broad base of opinion, it is nonetheless used to argue for research to produce changes in schools. Regardless of the conceptualization of the need for change in schooling, all rationales harken back to some set of value assumptions whether they be "democratic," "cost effective," or "class struggle."

A starting point to discuss values in educational research is Beyer's (1986) review of a book by Feinberg where both writers attempt to define the "context" in which public school education takes place. Beyer makes the point (1986, p. 88) that too often we discuss education without a clear understanding of its role, function, and consequences. Part of the current debate about the quality of American education is a product of the highly "specialized, often fragmented, and even antagonistic" disciplines which attempt to define the effectiveness of education without placing education in its appropriate context. The sharpest critique of current educational research practice is the tendency of researchers to be absorbed with their own narrowly conceived project and to miss the relationship of their work to the overall purposes of education. There are several outcomes of this position. One is as Feinberg says the failure of educational research is "to see just how their own activity

is internally related to the practices of schooling" (1983, p. 11 quoted by Beyer).

Beyer (1986) critiques both the social adjustment tradition of educational research and the school achievement tradition, variants respectively of the Jeffersonian and the progressive rationales, at the same time by remarking that in their failure to deal with the context of schooling educational researchers see the results of their efforts as neutral and objective rather than as "normative". The assertions of both research traditions are normative in the sense that the intent of a statement about teacher behavior or institutional organization is a change in the lives of individual students and that such a change is structured by the assumptions, stated or ignored, of the individual proposing the action. Ultimately, educational research cannot be value free because to conduct research or to propose a course of action based on a research result is to make value judgements about the purposes of education. "... [T]he central deficiency of most educational research. [is that w]e have tended to view... research into these area, as embodying autonomous, abstracted, fundamentally asocial and non-normative phenomena." (Beyer, 1986, p. 94). The issue of putting education into a context is an inherently useful one since education does take place in a very value laden context and that any one conducting educational research must at some point deal with the values implicit in any educational system.

Therefore, starting without any attempt to hide the value dependent nature of educational research, let us consider its history and alternative conceptualizations.

A brief history of educational R&D

Schutz (1979), from the perspective of the end of the largest expenditure for educational research in our history and the imminent change in the participation of the federal government in educational research and development, describes four periods in the history of educational research and development. The first period ran from the 1890's to the middle of the 1950's and was characterized by individual activities by university faculty or by graduate students attempting to meet degree requirements. The critical event that ushered in the second stage is the Cooperative Research Act which would create the model of educational R&D for the next decade. During this second phase, educational R&D was the product of 'ad hoc' collections of university faculty and subject matter specialists drawn from the schools in order to create and evaluate curriculum. This period closed out in 1965 with the enactment of the Elementary and Secondary Education Act which established the regional labs and centers systems. Schutz (1979) in the tradition of my-ox-has-been-gored laments the passing of this era by the establishment in the mid 1970's of the National Institutes of Education and the decline of the labs and centers as major recipients of the R&D dollar. A fifth period would now be added which would run from the very late 1970's movement by Jimmy Carter to hold down the total federal budget into the Stockman/Reagan era of the wholesale slaughter of the domestic federal budget.

In the first era described by Schutz, there was no formal, if any, relationship between the supposed beneficiaries of educational R&D and the knowledge generators. During the second era, the stress was on cooperation between the university and the schools in an indirect fashion. Representatives of the schools were involved as expert practitioners; however, there was no institutional commitment from the schools which the practitioners represented to implement any of the changes. Consequently, direct influence on the schools would be accidental at best. The third era saw a gigantic step away from the schools by attempting to raise educational R&D to the status of a profession through the establishment of the labs and centers which were semi-autonomous businesses who were only responsive to the federal funding agencies that supported them (Schutz, 1979). The establishment of NIE was the logical extension of this movement toward "professionalization" of educational R&D since educational research was to be raised in the federal hierarchy to the same status as the other science and bio-medical research

establishments. The fifth era has seen the continuing decline of federal involvement in educational improvement with the substitution of rhetoric and highly politicized stances for research expansion.

Traditional models of school-university cooperation

Traditionally, university faculties have viewed themselves as teachers and scholars, consequently they see their relationship with the schools as being the source of information trans mission. This view gives rise to what has is probably the most frequent model of university-school relationships: the top-down diffusion approach.

In this model, the university faculty is a source of information which it transmits to a student body that is by definition ignorant. In its most amorphous form, the graduates of the program are seen as spreading out in a thin layer, year after year, into the school system with the understanding that these outstandingly trained individuals will change it slowly from within. Unfortunately, the graduates are suborned by the personal, economic, and political realties of the system and are themselves either changed into a functional member of an existing system or move on to another situation with a small percentage of lingering malcontents and misfits.

A variant on this model was attempted by the Institute for Research on Teaching at Michigan State University which tried to influence educational practice at the teacher level by taking outstanding practitioners out of the classroom and using them on a full or part-time temporary basis to function as members of the research team (Shalway & Lanier, 1978; Florio & Walsh, 1978; Tikunoff, Ward & Griffin, 1979). While the process was very gratifying to the teachers involved and provided a useful perspective for the university researchers, there was no institutional commitment on the part of the schools to enact any of the innovations that the teacher-researchers were active in. In the traditional top-down knowledge diffusion model, the burden of responsibility for educational change is placed on the shoulders of the individual teacher who is to change the system one classroom at a time.

In the bottom-up clinical model, the service role of the university faculty member is stressed. In this approach to creating educational change, service is not provided to the school but more directly to the students. Faculty interventions may follow the "trainer of trainers" model where teachers or other school professionals are taught to do specific kinds of activities. The limitations of the bottom-up clinical model include the generally, small scale of the projects and the lack of institutional commitment to any project as a permanent change.

Because of the general failure of universities to respond to the on-going research needs of schools due to the view of the role of the university in society and the subsequent limits placed on the actions of the university faculty, a radically different form of relationship is needed. The question to answer is what the form of that relationship should be.

Rationale for interactive research

Cohen and Garret (1975) offered a solution to the problem of how to conduct educational research in a meaningful way. Like Eisner's notion of connoisseurship in educational evaluation, Cohen and Garret's "discourse" approach to educational research and development steps back from the simplistic, pure science approach to educational research and applies a different model to the methodology. In its rudimentary form (Cohen and Garret, 1975; p. 42-43), all parties in the "discourse" must be able to:

- initiate discussion
- establish or influence the rules of conversation
- put forward statements
- request elaboration and clarification
- call other statements into question

Such a concept of educational research is foreign to the pure science approach. It is difficult to imagine a physicist negotiating with an electron or a chemist debating a catalyst. While this is an attractive approach to the conduct of educational research since it involves a method for dealing with the

value assumptions implicit in educational systems, some limitations should be noted about the basic assumption of this particular solution.

There is implicit in any human discourse a set of rules for the conduct of the exchange. In linguistics, they are variously referred to as "turn-taking behavior" or "regulative rules". Consequently, an immediate limitation of Cohen and Garret's proposal is the practical problem of who is to be the referee. Clearly, in any discussion, there is the potential for one side to dominate. In fact, in multiple participant discussions, there are specific formulae for predicting highly differentiated participation rates. A further problem with the proposal is the definition of the participants. Is this the university researcher with or without his support staff engaging students, parents, teachers, administrators or some combination of individuals? Do we negotiate with individuals or their group representatives? What do we do with unreasonable or impractical requests which can range from the teaching of "creationism" to requests for double periods for the marching band at the expense of academic instruction? A further problem with this approach is the objectivity of results, just as individuals can delude themselves, so can groups. The external observer of this process needs some assurance of the validity of the process and generalizability of the results.

An alternative to the problem of validity presented by the "discursive model" is the concept of "reciprocity" between the researcher and the subject which is a given in radical approaches to the conduct of educational research (Lather, 1986). The radical view of educational research motivates reciprocity on the basis of the need for the research subject to be empowered to change his or her situation in an "unjust world." However, some familiar themes echo through this radical view such as the need to explicitly state the values of those involved and the need to develop shared perceptions of the phenomenon by both the researchers and the subjects which would benefit educational research practice regardless of one's starting point.

Lather (1986) offers a nice summary of three methodologies which demonstrate the concept of reciprocity between the researcher and the researched:

1. Collaborative interviewing and interactive research where interviews are repeated several times. This is done for two reasons. First, the desire on the part of the researcher to respond immediately to the needs of the subject is acknowledged by reporting the results back to the subject. The second reason is to check the descriptive and the interpretive validity of the research itself.

2. Expanding the circle of participants through interviews followed by questionnaires. This procedure looks vaguely like a pilot study followed by research. The critical difference in the procedure is in the source of the items for the questionnaire. In the conventional pilot study method, the researcher generates a set of items and does a "reality test" with a small sample of subjects. The subjects are essentially data emitters and the purpose of the pilot is to see if a potential audience can and will respond in the way the researcher would like. In the expanding circle model, the subjects generate the categories and some of the items which are then used with a larger sample to ensure generalizability.

3. Collaborative theorizing attempts to move subjects from providing data to theorizing about it. The goal of this research method is to allow participants an opportunity to define the results of the research. Obviously, time imposes constraints on the extensiveness of this process. A variation on this is "coauthored statements" in which the researcher and the subject negotiate a statement about the results of the research. In this form of reciprocal research, greater emphasis is placed on the limitations of the subject in the amount of input into the results.

While the theoretical underpinnings of these research methods are radical in tone, they are fundamentally variations on already accepted practices such as participant observation. What is more critical to the acceptance of the radical view of educational research is a question of the actual degree of

participation of the subjects in the research process because of practical constraints on researcher-subject communication. The radical approach legitimates the active role of the subject in research through specific procedures, thus moving Cohen and Garret's discursive method a step closer to a workable system.

Overall, one construct must underlay any new approach to educational research: subject participation. A dialogue must exist between those who would provide the basis for change and those who would be changed. Otherwise, the fundamental problem of the role of values in decision-making will not be addressed. The "who" in this kind of a system is crucial. To be effective mid-level management must be involved as will be discussed later. In addition, teachers and other school staff must also be involved to as great an extent as is practical in order to ensure the clearest definition of the researchable problem and the widest acceptance of the solution.

A new research to development process

To respond to the two challenges of value-implicit research and the need to involve participants in the research process, we will define a seven step process for the conduct of effective educational research. The key constructs underlying this new approach are discussion and negotiation. The "discursive model" is essentially adopted, but it is amended by the realistic constraint of the need of constituencies with different agendae needing to resolve differences through negotiation.

Problem identification. As the individuals most familiar with the day to day operation of their respective school programs, the mid-level management of the programs need to meet with the university research team on a regular basis to define their development needs. Mid-level management is chosen for this step for two reasons. First, the effective school literature clearly identifies activist principals as a key ingredient in effective schools. Second, mid-level managers share the perspective of both practitioners and managers in that they have day-to-day contact with the teachers and students and at the same time have the capacity to set their own schedules in order to accomplish special projects.

This is an open-ended "brainstorming" event in which the administrators not only discuss their own situations but are able to gain a perspective from other programs. The result of this meeting is a collection of perceived needs that is pooled by the research team across several of the programs. Individual program problems are not themselves addressed but rather program problems that are generic to several programs. This is done to produce a manageable set of issues that potentially has generalizability for a wide range of programs. In the dynamics of this meeting, it is the role of the university research team to clarify and identify trends as they appear. It is an option of the university research team during this phase to reject a particular initiative as being out of the range of the resources or the expertise of the research team.

Problem definition. This takes place after the initial round of problem identification. Part of the activity is the university research team's collection of local problems into themes. This is followed by the school representatives elaboration and expansion on primary topics, that is goal setting for the university research team, as well as the process of setting priorities for responding to requests for assistance from the university research team. After the group meeting, the university team continues to define the problems through conventional library research and the writing of draft proposals for research or intervention.

Preliminary research. This covers a range of activities including the compiling of background data on potential sites and subjects, the development or pilot testing of specific instrumentation that would be used in either further research or in evaluating an intervention. Small scale research activities with individual schools could also be planned and executed during this phase if needed to validate a specific theoretical approach. The emphasis is on the assemblage of information prior to developing a proposal.

Project development. In this phase the

university research team develops a specific proposal for an activity. Depending on the level of knowledge in the area, this could be a proposal for research or for an intervention. Obviously this is a point of contention between the philosophy of the school personnel and the university researchers. The school personnel with their interest in improved practice prefer intervention projects while university research teams often show a preference for conducting more research. There is no simple solution to this conflict, however, the mutual respect developed in the relationship, the enthusiasm for the goals of the project, and a certain degree of innovative thinking can resolve this problem.

The project may be the initiative of either side. If the university research team develops the proposal, the school is a source of specific information about conditions and previous experience. If school personnel develop the proposal, the university research team is a pool of technical expertise.

Project review. Because this is a negotiated relationship and not a formal one, the university research team goes to the program administrators with a specific project. The role of the school administrators to comment on the feasibility of the project itself and to reflect on the match between the values implicit in the proposal and their situations. The simple solution to objections to a theoretical problem is for the school simply to not participate, however, that would destroy the essential working relationship if exercised too often. A more constructive resolution is for the school personnel to offer alternatives.

This is also the point at which the level of support that the individual program can offer is made. This is essential since it commits the school program not merely to participating in the project but to supporting it actively. An obvious problem in any university proposed intervention is the degree of commitment of the school personnel to the project and the degree of intrusion of the innovation into the system. This early project review phase with the question of individual program participation remaining flexible permits for varying degrees of involvement at a stage when the feasibility or the utility of the project is still in doubt.

Pilot project. Success is often the best justification for an activity. The pilot phase permits a realistic demonstration of the concept which can be used later to justify an expansion of the project while building institutional commitment to the project concept. There are in addition the usual benefits of a pilot project such as the field testing of procedures and the development of evaluation procedures.

Proposal development and external funding. This phase follows the local university procedures for generating external funding. While this is a tiresome fact of life, this system has the advantages that firm support from a group of schools is assured and some preliminary results are available to support the requests.

The operation of one research network

The national research to development network for public school programs for the hearing impaired grew out of work originated by the Center for Studies in Education and Human Development of Gallaudet University with three public school programs for the hearing impaired. Out of this initial effort came a national network of a sixteen programs with direct, regular contact that are in the process of providing data for a longitudinal study of public school programs and are participating in various development projects. The network consists of essentially city or county-wide systems. The programs in the network are the Horace Mann School in Boston; Bergen County, New Jersey; Philadelphia Public Schools; Allegheny Intermediate Unit #3; Pinellas County, Florida, Broward County, Florida; the regional day programs in Dallas, Austin, San Antonio, and Houston; Orange County and San Diego Unified School Districts in California; Hinsdale South High School in Illinois; the A.G. Bell School in Columbus, Ohio; and the Toronto Metro School District.

The network got off the ground during the summer of 1986 with a three day meeting for personnel from eight school districts. The purpose of the meeting was to explain the

purpose of the network to the school personnel and to solicit their cooperation. In addition, they were given the opportunity to provide feedback on their needs as well as the feasibility of the project.

One of the unique features of the research to development process is that school personnel participate with the research staff in defining problems, developing solutions, and working out appropriate research or intervention procedures. One important step in this process is an annual meeting between all of the schools and the research staff. The purpose of this meeting is to provide feedback to the school people about the previous year's works, to outline future work, to solicit input about problems and solutions, and to develop insights into the interpretation of research results.

We can illustrate how the system works by looking at three projects that grew out of the initial discussions with the school administrators.

Table 1

Operation of the Research to Development Process

Project Phase	Projects		
	School Achievement	Social Adjustment	Postsecondary Plans
Problem identification.	Completed	Completed	Completed
Problem Definition.	Completed	Completed	On-going
Preliminary research.	Completed	Completed	Beginning.
Project Development.	Completed	Beginning.	
Project Review.	Completed		
Pilot Project.	Completed		
Proposal Development/ External Funding.	Completed		

The first completed project: Writing Improvement

The writing improvement project was built around a conventional pre-test/ post-test model. Pre-test data included student and teacher back ground information, process data including the teacher logs, student journals, and teacher reactions to the process as well as summative data which included writing sample post-tests, were to be collected.

43 teachers participated in the first year of the project. During the first year several meetings were conducted in order to respond to a school defined need for teacher training in composition. The content of the two-day workshop included developing a rationale for writing instruction, teaching writing as a process not a product, and the promotion of writing through a non-judgmental use of journal writing. However, in one group of schools the staff was already familiar with the concepts and the meetings took a different form. The teachers and the research team reviewed the constructs and organize the implementation of the project and the details of the data collection.

The university research team proposed an innovative way to build on a system already familiar to some of the teachers: dialogue journal writing (Kluwin et al., 1989). The project was instituted in two stages so that hearing and hearing impaired students could share journals. The first phase took place from November, 1987 to February, 1988. During this time, those schools where no journal writing had ever been done began the process of doing journal writing between the hearing impaired students and their teachers. In one school, the students already had considerable experience with journal writing, so they began a small pilot project with 15 pairs of hearing and hearing impaired students. During a meeting of the project director, the chairperson of the English department at the high school where the pilot would be run, and the teachers of English for the hearing impaired students the problems of instituting a dialogue journal writing project were discussed. The emphasis of the discussion was on local solutions to any problems that might be encountered during the pilot. Basic agreement was reached that an attempt would be made to exchange journals between deaf and hearing students once a week, that the deaf students would initiate the writing, that class time would be allowed for the hearing students to write, and that the students would know in advance who they were individually writing to. By the first of November, the 15 pairs were exchanging journals. This went on until January when the semester changed. The completed journals were forwarded to the university research team and were used as the basis for developing the coding system for the other journals.

The second phase began in March, 1988 and continued until June, 1988. During this phase, most of the participants set up dialogue journal writing programs. The details of the individual exchange programs varied due to differing grade levels and school placements that were involved.

During meetings for teachers in the project conducted during the second year of the project, the teachers discussed their experiences with the dialogue journal writing process. Notes were taken by the project staff and a description of how to implement the dialogue journal writing process was generated based on the notes of the research team present during the discussions. These notes were then circulated back to the teachers as the basis for the replication of the dialogue journal writing project during the second year of the project.

An idea book for teachers of about 125 pages was written (Kluwin & Tobin, in press). The book consisted basically of a description of teaching writing to hearing impaired students as a process, sample lesson ideas from the teachers in the writing project, and resources for teachers interested in implementing this kind of a program. Material was received from 27 teachers from this project and additional material was written. The final document will be sent back to the participating teachers as well as to others interested in implementing a similar kind of project.

Day to day operation of this project has been the responsibility of Arlene B. Kelly and

Blanche Drakeford.

The second project: Social and emotional adjustment

The second area of concern defined during the initial meetings with the program administrators was in the area of the social and emotional adjustment of hearing impaired students in public school programs. The particular concern expressed by the program administrators was that the hearing impaired students in the public school programs appeared to be unnecessarily isolated from their peers.

In response to this concern, the university research team reviewed the available literature on the topic and proposed that a distinction be made between measures of satisfaction with one's current situation versus measures of one's ability to cope with new or stressful situations (Blennerhasset, Kluwin & Sweet, 1989). The school personnel accepted the second conceptualization of the problem as being more appropriate to their situation. While they did not deny the validity of the former construct, they felt that a better measure, both for making placement decisions and for evaluating the success of intervention programs, would be a measure of the student's ability to cope.

Consequently, the university research team selected an instrument, the Adolescent Coping Inventory or ACOPE, and modified its form for presentation to a hearing impaired sample with highly varying reading levels. A simplified English version was prepared and pilot tested at two sites. Following the pilot testing, a sign language version was produced on videotape to be shown during the administration of the instrument.

Subsequent to the completion of the pilot test, the instrument was administered to nearly 300 adolescents in the 16 different programs in the network. Validity and reliability studies of the coping measure are on-going. A particular problem with the measure is that most of the twelve scales generated by the test developer are quite unreliable for use with hearing impaired subjects, however, three "super-scales" created by factor analyzing the output of the twelve sub scales are reasonably stable.

It is hoped that profiles of successful and unsuccessful "copers" can be built so that at risk populations can be identified and treatment procedures devised.

Upon completion of the validity and reliability studies of the coping measure. the university research team will propose some pilot interventions targeted for groups selected by the school personnel.

The third project: Post-secondary plans

The third area of concern was defined by the university research team after reviewing the variety of third choice concerns expressed by the school personnel. At present the problem is being defined more precisely. Issues such as post-secondary training, transition to the workplace, and survival skills have been considered.

During a project review meeting, instrumentation was proposed to the school personnel and rejected because of the language level of the instrument and the perception of the school personnel that they already did a large amount of vocational evaluation. The compromise was that the university research team would review all of the vocational evaluation or career planning information used by the schools and develop, if possible, a proposal to use archival information. The results of that review were that the schools did quite a bit of vocational evaluation but were not consistent between and within programs in what measures were used.

The alternative to the use of archival information that was proposed by the research team at the project review meeting was to modify, if needed, an existing vocational evaluation instrument. This option was selected and modifications and pilot testing of the instrument has been completed. When a final version is ready, a validity and reliability study using several hundred of the students in the network will be done.

At present, the university research team needs to review the possible conceptualizations of the problem so that

additional instrumentation can be sought or developed and initial plans for interventions can be developed as the basis for a research program.

Putting a research team together

The network is not a single researcher working alone but involves the concept of a team of university faculty members working as a group. Since specialization is a fact of academic life, the network builds on that fact rather than fighting. The earliest member of the team was Lynne Blennerhasset of the Gallaudet University Psychology Department who contributed substantially to the development of the second thread of the current research. Professor Blennerhasset suggested moving away from the static notion of social or emotional satisfaction so often used in research on hearing impaired youngsters to the more appropriate concept of looking at the capacity of hearing impaired youngsters to cope in public school settings.

Suzzane King of the Douglas Hospital Research Center in Montreal became involved in the project next through her dissertation work on the career maturity of hearing impaired children. Drs. Michael Stinson of the National Technical Institute for the Deaf and David Stewart of Michigan State University became involved as hearing impaired adults who had experienced public school education and shared an interest in the social integration of these children within the public school setting. Dr. Stinson is developing instrumentation to assess the degree of social integration of hearing impaired students.

One of the original needs of the project was to assess the communication abilities of the students. This effort brought in Dr. James Woodward of Gallaude University and Dr. Martha Gonter Gaustad of Bowling Green State University.

Perhaps the most important individual in the entire operation is Catherine Sweet of Gallaudet University who manages the day to day operation of the network. She coordinates all phases of the project from doing pilot testing of individual students to arranging meetings between the research staff and the school personnel.

Expanding the influence of the network

There are three ways in which the influence of this system has grown. One is through the direct support and involvement of the administrators of the programs. The second is through the direct contact with teachers and staff members during data collection phases of the project as well as during staff training. One of the more gratifying experiences of the second year of the writing improvement project was the evolution of a "self-teaching" seminar where the teachers from around the country came together in small groups to discuss the results of the first year's activities and share their experiences. An informal secondary network of teaching professionals grew out of those meetings. The third way that this system has grown is through the various Gallaudet graduate students who have assisted in the project and gone on to teaching positions. Kate Tobin at Annandale High School in Virginia, Mary Simpson at the University of Montevallo in Alabama, Lynne Wisman-Horther at the Willie Ross School, and Julie Papalia at the Pennsylvania School for the Deaf helped to create the sense of comraderie and hope for the futur which is essential to this kind of an undertaking.

Practical problems in implementing a discursive model of research

Four problems will consistently plague the operation of this kind of a research relationship: cost constraints, time limits, communication problems, and system stability.

Cost constraints are not unique to educational research, but some of the vagaries of funding such a research process may be unique to it. The primary source of educational research funding is either the federal government or a private foundation. The federal government uses a system which encourages one-time projects with schools. It is not possible to get multi-year commitments from federal sources for the purpose of developing research ideas. The federal government is only consideration as a funding source for this kind of research process

during the last stage. The track record of previous work and the ability to demonstrate that the work will result in concrete school changes will make the proposal to the federal funding agency very appealing, but they cannot be counted on to support all of the effort that goes into the development of the idea. Private foundations should be more amenable to an open-ended working relationship between a university and the schools, but they also want specific projects in advance of funding. The most reliable source of funding for this kind of a long term relationship must come from a university commitment to improve schooling and from school districts wanting fundamental changes. Under the current funding systems this kind of working relationship is an economic nightmare of uncertainty.

A combination of a supportive university administration and hard work can overcome some of the difficulties in funding. The project was originally started under an award from the Office of the President of Gallaudet University and has been continued under the sponsorship of the Gallaudet Research Institute through the Center for Studies in Education and Human Development. Support for major research efforts has come out of the Office of Special Education and Rehabilitation Services. Pilot projects have been jointly sup ported by the Center for Studies in Education and Human Development and the school districts through cost-sharing. Time for the university faculty member and time for school personnel are very tightly constrained. University faculty members are expected to teach, provide service, and to do research. Talking to school people about problems and letting the school people set the agenda runs counter to the current demands on university faculty time. Again a university level recognition of the utility of this kind of relationship is required. At the school district level, there must be a willingness to spend professional time on ideas that may not produce results or at least immediate results. School districts are increasingly adding to the limits of the teacher's day and to the paper work requirements of the middle level administrator. These factors sharply reduce the capacity of the school personnel to participate in this kind of a relationship.

Communication is a problem in any human system. A national network for research to development compounds the problem because of the distances involved. Understanding must be created within the university research team and between the university research team and the school personnel. In addition, parents must be informed of the changes or innovation so that they have the opportunity to work to support the change. Communication costs can be staggering, however, innovative technologies such as computer networking can ameliorate this problem if all participants can hook up to a single system.

The stability of educational systems is a serious threat to the operation of such a network. The half-life or a middle level public school administrator is about four years. Consequently, in our national research to development network, about one-quarter or our contact people change each year. New administrators must be initiated into the history and operation of the system. Such a process of "fence mending" is quite time consuming. A mistake that can be made by a university team initiating such a system is that the programs they will work with will remain stable year in and year out. Each year a portion of the effort that went into the initial organization of the system must be repeated.

We have attempted to address the substantive problem of the usefulness of educational research findings by initiating a unique form of working relationship between university researchers and school programs. Such a network is feasible as we have shown, but it is not easy to organize not to maintain. We expect that the current system for doing research is probably the easiest to maintain, although it may not be the most effective.

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