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ABSTRACT

The 1969-70 Experienced Teacher Fellowship program (ExTFP) actively sought teams of two or three teachers from the inner city areas of the 25 largest cities in the United States. Twenty-four Fellows were selected to develop a model program designed to orient, upgrade and prepare a nucleus of urban teachers in evolving technologies for a broad-based industrial arts program. The 9-month program, which resulted in an M.Ed. Degree, was designed so that each Fellow would (1) become competent in those aspects of American industry which embrace either Industrial Materials and Processes or Energy and Propulsion Systems, and (2) develop, field test and evaluate the curriculum materials needed for an application of these evolving technologies in the schools systems. Observers noted that several changes instigated in this year's program improved this third ExTFP. A more complete evaluation of this project covering 3 years of operations is planned for the near future. Evaluation of the second year (1968-69) is available as ED 038 521, and the instructional packages developed during the year are available as ED 040 303. (CD)

1970

Experienced Teacher Fellowship Program

Dept. of Industrial Education
Wayne State University
Detroit, Michigan 48202

A REPORT

1969-70

EXPERIENCED TEACHER FELLOWSHIP PROGRAM

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PREFACE

This report is based on the 1969-70 Experienced Teacher Fellowship Program (ExTFP) in industrial arts that was supported by the U.S. Office of Education, as authorized under the Basic Studies Division, Education Professions Development Act of 1967.

The project had the cooperation and support of the U.S. Office of Education, the Detroit Public Schools, the Detroit area industries, and Wayne State University. This project was conducted from September, 1969 to June, 1970.

The ExTFP was designed to provide an opportunity for twenty-four experienced industrial education teachers to pursue graduate study in occupational clusters, and to implement a broad base approach to occupational education. Emphasis was placed so that each Fellow would: (1) become competent in those aspects of American industry which embrace either Industrial Materials and Processes or Energy and Propulsion Systems, and (2) develop, field test, and evaluate the curriculum materials needed for an application of these evolving technologies in the school systems.

At the culmination of the program, each Fellow completed the requirements for the M.Ed at Wayne State University. The participants of this program represented eleven states. Each Fellow received a tax-free fellowship of $4,000 and $600 stipend for each dependent, as well as tuition for graduate study at Wayne State University.

The project staff acknowledges contributions of Dean J. W. Menge, College of Education, Wayne State University; Dean Leon T. Ofchus, College of Education, Wayne State University; Dr. John W. Childs, Chairman, Department of Instructional Technology, Wayne State University; Dr. Norman Drachler, Acting Superintendent, Detroit Public Schools; Mr. Wilbur E. Landis, Executive Coordinator, World of Work Education Department, Detroit Public Schools; Mr. Frank S. Bowers, Grants and Contract Officer, Wayne State University; and the instructional staff who were associated with this project.

H. S. Resnick

PART I. INTRODUCTION

GENERAL DESCRIPTION

There is considerable agreement among teachers of occupational education that curriculum innovations and implementation are necessary to keep in focus with industrial development, processes, and problems. Since there has been little opportunity for practicing teachers to acquire the competencies and subsequent curriculum materials to introduce newer industrial practices in the curriculum, this program was developed. It was designed to orient and upgrade twenty-four teachers for a broad-based industrial arts program, based on the concept of occupational clusters. Emphasis was placed on two major clusters: (a) Industrial Materials and Processes, and (b) Energy and Propulsion Systems.

This program was presented for the first time at WSU during the 1967-68 academic year. More than eight hundred individuals applied for acceptance to the project. The 1968-69 ExTFP received a similar number of requests, with a greater focus on selecting teachers from the urban areas of the United States. The 1969-70 ExTFP, summarized in this report, actively sought teams of two or three teachers from the inner-city areas of the twenty-five largest cities in the United States. Over nine hundred individuals applied for admission to this program. It was hoped that this program would provide these teachers with the skills and curriculum materials needed to prepare and present a more relevant broad-base approach for occupational education to students in inner-city schools. The overall purpose, then, was to develop a model program designed to orient, upgrade, and prepare a nucleus of urban teachers in evolving technologies for a broad-base industrial arts program based on the goals for industrial arts as stated in the American Vocational Association publication, "A Guide to Improving Instruction in Industrial Arts," revised 1968.

In an attempt to attain this overall purpose, seven terminal performances were established for the Fellows.

1. Each Fellow will receive the M.Ed. degree upon successful completion of all course requirements by June, 1970.

2. Utilizing the "en bloc" treatment in terms of courses and activities throughout the year; and the facilities of a special Fellowship room, the Fellows will work together as teams, as well as on an individual basis, placing the achievement of the objective at hand above any personal credit for achieving that task.

3. Given the occupational cluster of either industrial materials and processes, or energy and propulsion systems, each Fellow will increase his technical competency to teach that cluster on the secondary school level.

4. The Fellows will develop a teaching style for high school students that will secure a student commitment to learn.

5. Based on information concerning current industrial education curriculums being implemented throughout the United States, the Fellows will write interim and terminal objectives for an industrial arts program, and design and develop the supporting pre and post tests, instructional strategies, and concomitant teaching aids.

6. Utilizing the instructional packages developed in the previous objective, the Fellows will test the effectiveness and efficiency of these packages in inner-city public schools using micro-teaching techniques. Those packages found to be not effective will be revised and retested until effectiveness is attained.

7. Through writing experiences in curriculum development, coursework, the Guild News, and journal articles; discussion with national leaders in the field; travel to state and national conventions; and other conference activities, the Fellows will assume leadership responsibilities in the field of industrial education on either the community, state, national, or teacher-education level.

Basic Structure

This program was organized to provide for the fulfillment of the seven terminal performances. To accomplish these objectives, the group of twenty-four Fellows was divided into two equal groups. Twelve Fellows specialized in the broad area of Industrial Materials and Processes, and the other twelve concentrated on Energy and Propulsion Systems.

The courses included in the Plan of Work leading to a Master's degree are reported below. Of the eleven scheduled courses, eight were taken by the entire group. The field experiences (through IED 6170) and supporting (cognate) subjects were specifically related to the concentration for each group.

The courses included in the Plan of Work leading to a Master's degree are reported on the following sheet. Of the eleven scheduled courses, eight were taken by the entire group. The field experiences (through IED 6170) and supporting (cognate) subjects were specifically related to the concentration for each group.

	Major	Professional Core	Cognate
Fall Quarter	Introductory Seminar (IED 7187 -- 4 cr.) Advanced Methods and Materials (IED 6187 -- 4 cr.) Principles of Fluid Power (IED 6173 -- 3 cr. - E & P only)		Production in Instructional Technology (IT 5762 -- 4 cr.) Advanced Machine Tool Processes (MES 0591 -- 4 cr. - M & P only)
Winter Quarter	Advanced Methods and Materials (IED 6187 -- 2 cr.) Advanced Electronics (IED 5175 -- 3 cr.) Industrial School Experiences (IED 6170 -- 4 cr.)	Sociology of Urban Schools (EDS 6628 -- 3 cr.) Psychology of the Disadvantaged (EDP 5740 -- 4 cr.)	
Spring Quarter	Organizing Course Materials (IED 6185 -- 6 cr.) Terminal Masters Seminar (IED 7189 -- 4 cr.)	Philosophy of Education (EHP 7601 -- 3 cr.)	Auto Data Processing Principles (GB 0562 -- 4 cr.) or Occupational Information (EGC 7708 -- 3 cr.)
TOTAL	M & P 27 E & P 30	All Fellows 10	M & P 11 or 12 E & P 7 or 8

CODE

IED - Industrial Education
M&P - Materials and Processes
E&P - Energy and Propulsion
IT - Instructional Technology
MES - Mechanical Engineering Sciences

EDS - Educational Sociology
EDP - Educational Psychology
EHP - Educ. History and Philosophy
GB - General Business
EGC - Educ. Guidance and Counseling

In addition, the professional core courses and the methods courses were taught on an en bloc arrangement and tailored to the needs of the Fellows. For example, in the three professional core courses special sessions were devoted to discussing the implication of these areas in industrial education. The two courses dealing with psychology and sociology were especially directed toward problems facing minority youth in urban areas. The philosophy course considered the implication of the demands of new power groups within the philosophical framework of the American culture. The methods and curriculum courses (IED 6187 and IED 6185) were especially planned to equip the Fellows with the necessary instructional materials and methods for implementing an individualized curriculum, based on the AVA "Guide" previously mentioned. During the first semester, the Fellows examined many innovative curriculums in industrial education. Based on this review, they selected, for their goals, those suggested for industrial arts education as promulgated in the AVA "Guide to Improving Instruction in Industrial Arts," 1968 edition. It was decided that this program could best be implemented through the following ten units: 1) industry and civilization, 2) the industry, 3) organization and management, 4) research and development, 5) planning for production, 6) production or manufacturing, 7) distribution and sales, 8) service, 9) simple machines and hand tools, and 10) sophisticated machines.

Each Fellow then selected one unit to study in depth. Every unit was assigned to at least two Fellows; some units were developed by as many as four Fellows. Each Fellow researched his unit to become an expert in the substantive content of the area, and prepared a report for duplication, discussion, and distribution to all other Fellows.

The Fellows also examined the techniques of designing individualized instruction in "package" form. Each package included a behavioral objective, a pre test, an instructional sequence, and a post test.

Based on these skills, the Fellows then worked throughout the year to develop instructional packages for their areas. Approximately 500 packages were produced. These were duplicated for all the Fellows, and several extra sets were prepared. They have been entitled, "Individualized Materials for Industrial Education," and are available through ERIC.

A new industrial education course (IED 6187) was conducted with time allocated for study, experimentation, development, and evaluation of these curriculum materials, through field testing in the Detroit Public Schools. This field testing utilized some of the most recent methodological procedures, such as micro-teaching, role playing, and simulation.

The Fellows also had the responsibility of selecting and contacting guest lecturers who discussed trends and innovative curriculum projects in industrial education. These presentations provided an opportunity for the Fellows to examine and evaluate what is now being advocated for industrial education by selected leaders throughout the nation.

The instructional program provided for joint activities with representatives of industry, and work with selected teachers from inner-city schools in Detroit. The selected industrial schools were used to strengthen the Fellows' technical background in current industrial practices. This was supplemented by formal courses in electronics, and either fluid power or advanced machine processes at Wayne State University.

Another aspect which had considerable impact on the program was the provision for a special Fellowship Room. This facility was used for many formal and social activities. It facilitated numerous professional discussions and provided an operational base for meetings, discussion groups, and study areas.

PART II. EVALUATION

PRE-PROGRAM ACTIVITIES

The success of an in-service or pre-service program depends, to a large extent, on the amount of pre-planning and organization that precedes the formal activities. For this reason, considerable emphasis was placed on this aspect of the ExTFP. There were, of course, numerous functions carried out by staff members in the period from notification of the grant to the arrival of the participants. These pre-planning activities were grouped under these headings:

-The Announcement of ExTFP
-Selection of Participants
-Inquiries and Communications
-Orientation Meetings

The Announcement of ExTFP

Two major forms of communication were used to inform industrial education teachers, directors, teacher educators, and national leaders of the program at WSU. First, news releases were sent to the national journals and associations in the field. A brief description, objectives, contact address, and other related information was included in each of these articles.

Secondly, a descriptive brochure, (see Appendix A4), was developed and sent to industrial educators throughout the nation. The brochure was designed to serve two basic purposes: 1) to announce the Fellowship program, and 2) to provide a request for an application form.

In an attempt to contact as many inner-city teachers as possible, the directors of industrial arts for the twenty-five largest cities in the country was personally contacted by telephone. Each city director was aked to send a list of all his schools and industrial arts teachers tc the Director. A separate envelope, containing the brochure, was then individually typed and mailed to every school in that system, in addition to the copies sent to the directors for their personal dissemination.

The number of copies and the distribution sources for the brochure were as follows:

240 - Fellows in the two previous ExTFPrograms (5 copies each)
200 - First-Rank applicants to previous ExTFPrograms
1,500 - Guild News mailing list (national)
750 - Industrial Teacher Education Institutions (3 copies each)

150	State Directors for Industrial Education (3 copies each)
200	Response to personal requests by mail
180	Detroit junior and senior high schools (3 copies each)
1,000	Detroit metropolitan area
2,740	All cities with population from 100,000 - 500,000 (137 x 20 each)
3,600	Twenty-four largest cities in United States (24 x approximately 150 each)
480	Directors of Industrial Education for 24 largest cities (24 x 20 each)
50	Inter-university distribution
11,090	

Based upon this breakdown over eleven thousand brochures were sent to teachers and directors of industrial education in the major metropolitan areas. It was found that the extra effort employed in an attempt to reach the inner-city teachers was effective, based on the responses and applications received.

Selection of the Participants

As a result of the broad distribution of brochures approximately 900 inquiries by mail, telephone, or in person were received. These represented nearly all of the major metropolitan areas in the U.S.

A selection team composed of departmental staff, high school teachers, and participants in the 1968-69 ExTFP was used to evaluate the approximately 350 completed application packets, (see Appendix A-2). It was found that involving the Fellows in the 1968-69 Program was a particularly meaningful experience, for it provided further involvement, and an opportunity for substantial professional growth on the part of the Fellows.

By tabulating the data on the Fellowship Analysis Form (Appendix A-2), eighty-six first-rank applicants were identified. In arriving at this selected group, it was found that the applicant's transcripts, recommendations, and autobiographical statement were most helpful. The four hundred word autobiographical statement provided considerable insight into the individual's ability to write, organize, and present his thoughts. These, of course, are extremely important qualities in completing a graduate degree in a Fellowship Program.

A point system was used to select the original twenty-four participants and the eight alternates. These men represented ten states. Two prospective participants were unable to accept because of other commitments, and thus, the final group (see Appendix A-1) represented metropolitan areas in nine states, as illustrated in Figure 1. The number of states represented was significantly less than previous years, because teams of Fellows from the same school system were encouraged to apply together. It was felt that a team of two or three Fellows working together could have a greater impact as they returned to their school system.

Inquiries and Communication

One of the most important aspects of pre-program activities is the communication that transpires between the staff and prospective participants prior to their arrival on campus. To respond to personal inquiries from the selected Fellows, a staff member was assigned to provide all needed information. This resulted in descriptive materials, news notes, and personal letters specifically designed to orient the Fellows to the proposed program. Materials and responses to all questions were sent on a bi-monthly basis. It was found that this technique was extremely beneficial as it provided further information about the program and made the Fellows feel they were a part of the activities even before their arrival on campus. In this way, adjustments were made also to more adequately meet the individual needs of the Fellows and their dependents.

Typical items sent to the Fellows during this period included an abstract of the program, a housing requirement inventory, guides to the city and surronding areas, a listing of the Fellows, forms for a newspaper release, and several question and answer sheets. The reaction of the Fellows to this form of communication was extremely gratifying.

There were a number of personal contacts with the Fellows prior to the formal starting of the program. Staff members devoted considerable blocks of time to acquainting the Fellows with the city, locating housing, providing individual counseling, and participating as a group in other social activities. Again, it was found that this informal approach greatly stimulated the Fellows and set the stage for the launching of the program.

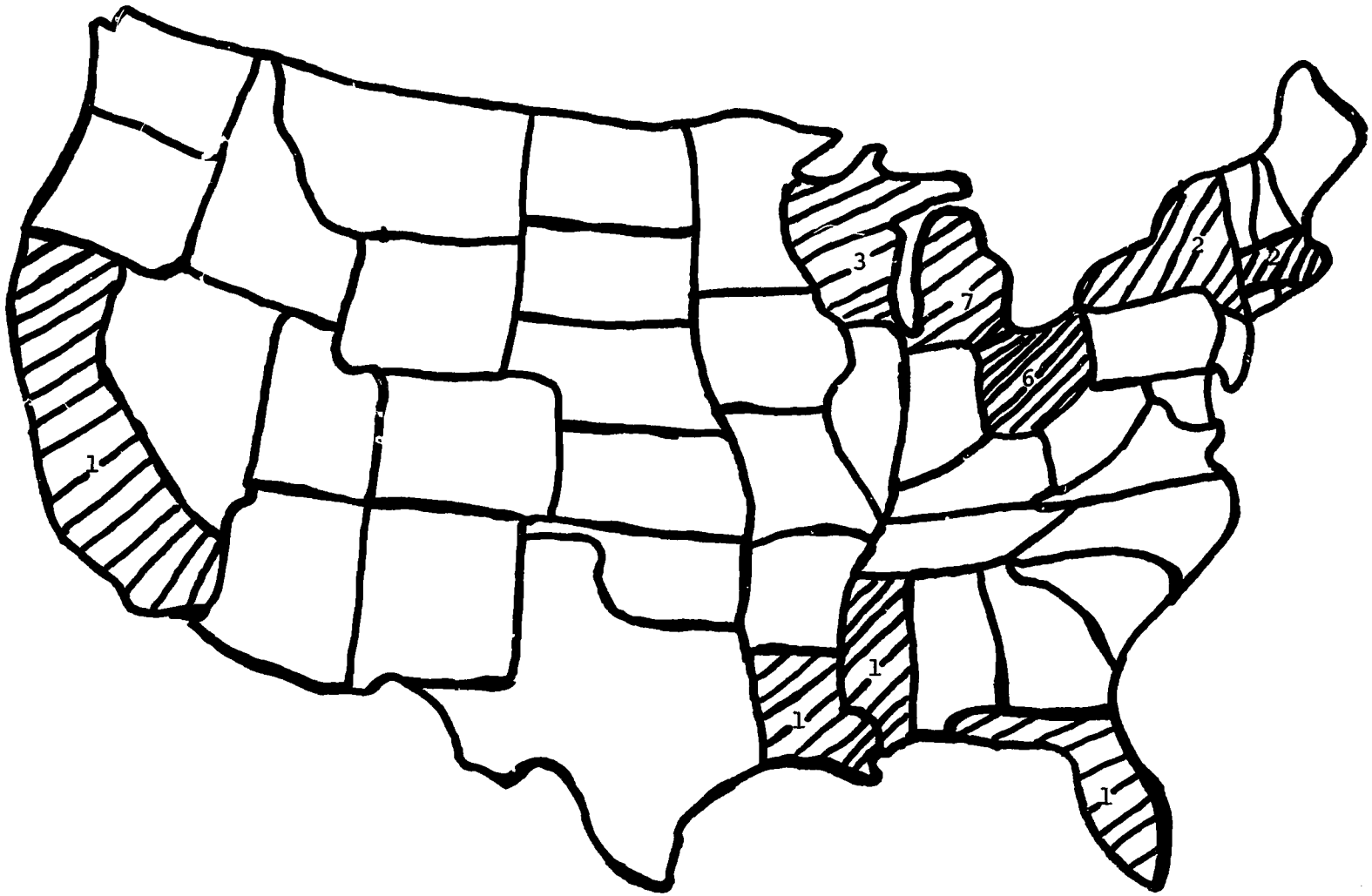
Orientation Meetings

Two orientations were held in the early part of the program to assist the Fellows in their understanding of the project and to provide an opportunity for the families to meet on a social basis. The first of these was a series of more formal sessions for the Fellows and staff in which the following items were presented and discussed:

Figure 1

GEOGRAPHICAL REPRESENTATION ACCORDING TO STATES

OF THE 1969-70 ExTFP FELLOWS



-Fellow and Staff Introduction
-Rationale of the Project
-Objectives for the Program
-Analysis of Program Activities to Show How They Contribute to the Program Objectives
-Organization and Structure
-Class Schedules
-Questions and Answers

The Fellows' reactions to these sessions were highly positive. They felt that these orientations were very beneficial in the development of a proper perspective so that all Fellows could see how each activity contributed to the overall goals for the program.

The second session was a picnic, designed to provide an opportunity for the staff, Fellows, and their families to meet socially. Approximately 125 persons were present for this occasion. This informal atmosphere was welcomed among the group as it promoted numerous discussions, plans for social activities, and insights into the interests and backgrounds of the group.

The project staff were of the opinion that the informal social and the more formal meetings contributed greatly to the successful beginning of the project. The exchange of ideas, and the answering of specific questions, fostered a better comprehension of the proposed program.

INSTRUCTIONAL INNOVATIONS

The development, evaluation, and refinement of instructional materials, teaching techniques, and research projects was emphasized throughout the academic year. Materials and techniques gained as a result of the industrial experiences also were given prominent attention.

There was a concerted effort to develop a total, integrated curriculum for industrial arts, utilizing experiences in professional courses, technical courses, industrial contacts, and teaching experiences in inner-city comprehensive high schools. As a result of technical courses related to a specific occupational cluster, such as advanced welding processes for the Fellows in Industrial Materials and Processes, and fluid power and energy sources for those in Energy and Propulsion, the Fellows were able to infuse new technical concepts into their instructional materials prepared for classroom purposes. For

example, Robert McQueen developed instructional materials for servicing the fluid power components of a production line, and Loyal G. Huffman prepared programed materials for advanced planning for production techniques. These packages represent a curriculum theory advocating behavioral objectives, pre and post testing, and instructional design sufficiently flexible to meet the needs of each student's cognitive learning style.

Desirable outcomes stemming from the industrial contacts included a greater awareness of occupational information pertaining to technological advances and instructional methodologies employed by industry. This information was incorporated into the instructional materials developed for classroom purposes. For example, Billy G. Toney developed an instructional package entitled, "Exploring the Field of Engineering." The Fellows considered their industrial contacts to be a very necessary and a desirable aspect of their technical and teaching competencies. The experiences gained in both technical courses and industrial contacts served as the preparatory steps for the inclusion and development of instructional materials for classroom use. Experience of this type gave the Fellows the opportunity to integrate their newly learned instructional technology skills with their updated technical competencies.

Newly developed materials were first field tested in micro-teaching situations, evaluated, and refined for classroom purposes. Selected master teachers and department heads from Detroit's inner-city high schools served to further refine the innovative materials. The micro-teaching sessions were conducted directly in three senior and two junior high schools in Detroit, and with a great amount of contact with inner-city youth. The Fellows were particularly impressed with the opportunity to work with these youths and apply some of the theories promulgated in their psychology and sociology courses.

All materials developed as a result of these experiences in technical courses, industrial contacts, and the public schools were compiled as a total set of packages for the Fellows to use in implementation at their home schools. These materials were designed to: (1) provide a nucleus of structured content and instructional materials within the two occupational clusters, and (2) provide available resource materials for a broad-based approach to occupational education.

The Fellows felt that the en bloc treatment provided many opportunities to learn from one another's background. This approach was greatly facilitated by the common courses, their other group experiences, and the designated facility. However, the Fellows also appreciated the opportunity for elective courses to meet their individual needs. These contacts with other graduate students provided considerable insight in developing an approach for working with inner-city youth.

The observations made by the Fellows concerning the values of the instructional innovation phase of this project were as follows:

1. The integration of all courses to meet common goals of the program provided an overlapping effect that enabled each Fellow to meet all requirements within the framework of his desired outcomes.

2. Experiences in inner-city teaching situations provided insights into the wide range of student ability and interest, and focused on the need for innovative instructional materials and teaching techniques.

3. The specific skills developed in the area of instructional technology opened new vistas in the development of possible learning packages to meet the needs of youth in a highly urbanized technological society.

4. The encouragement of team efforts made use of the individual strengths of the Fellows and Staff. This technique lends itself well to classroom situations where a wide range of pupil abilities and interests exist.

5. The total curriculum developed in the form of instructional packages will be of great value both in providing the Fellows with materials to conduct a multiple activity program, and in working with other teachers to develop new and more effective ways of teaching occupational education programs in secondary schools.

UNIQUE FEATURES OF THE PROGRAM

The Role of Industry

The cooperation of industry was secured prior to the planning of the proposal for the Experienced Teacher Fellowship Program. Wayne State University, located in the heart of an industrial metropolitan center, has developed extensive liaison and interaction with many of the industrial plants.

Several arrangements were made with industries in the Detroit area to enrich the ExTFP: tours of plants were arranged to study the problems of management, production, and labor which related to Industrial Materials and Processes or Energy and Propulsion Systems. These tours were arranged with the management and technical personnel, with specific requests for viewing and discussing industrial aspects pertinent to the ExTFP.

It was observed that there were many excellent sessions held between the Fellows and technical personnel which enhanced the value of the tours.

Tours were made to the following plants:

Ajax Forging and Casting Company
F. Joseph Lamb Company
Detroit Diesel Engine Division of G.M. Corporation
General Motors Technical Center
Ford Motor Company

The following outline summarizes the activities and the specific information covered by the plant tours.

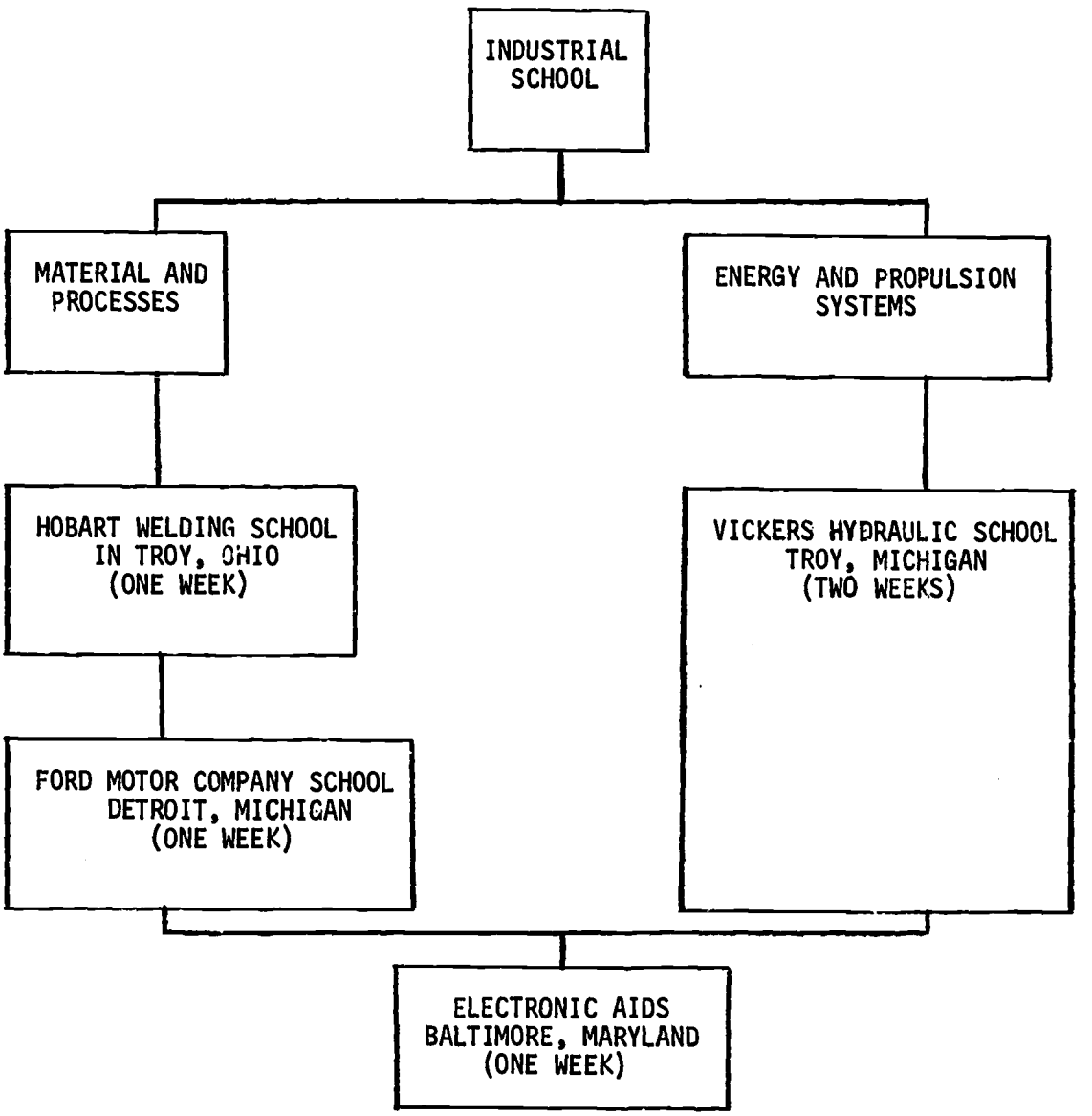
1. Employment
   a. Procedures
   b. Problems
   c. Trends
      1. Unskilled
      2. Semi-Skilled
      3. Skilled
      4. Technical
      5. Professional

2. Manufacturing
   a. Automotive
   b. Tool and Die
   c. Special Equipment

3. Research Development
   a. Welding
   b. Steel
   c. Plastic
   d. Engine Design

4. Total Complex
   a. Management
   b. Sales
   c. Engineering
   d. Manufacturing

Another arrangement made with industries provided for the use of their plant schools to provide field experiences for technical development. The Fellows concentrating in Industrial Materials and Processes attended three industrial schools, and the Fellows in Energy and Propulsion Systems attended two industrial schools. The final week both sections attended Electronics Aid in Baltimore, Maryland. The following chart indicates the name, place, and time spent at each of the industrial schools.


INDUSTRIAL SCHOOL
MATERIAL AND PROCESSES
ENERGY AND PROPULSION SYSTEMS
HOBART WELDING SCHOOL IN TROY, OHIO (ONE WEEK)
VICKERS HYDRAULIC SCHOOL TROY, MICHIGAN (TWO WEEKS)
FORD MOTOR COMPANY SCHOOL DETROIT, MICHIGAN (ONE WEEK)
ELECTRONIC AIDS BALTIMORE, MARYLAND (ONE WEEK)

During the first week in these industrial schools, the Fellows majoring in Industrial Materials and Processes, participated in the Hobart Welding School, where they were able to combine theory and practice to develop skills in the welding area. During the second week, they toured the various plants and training centers of the Ford Motor Company concentrating on basic manufacturing processes common to most industries, and acquiring occupational information related to the manufacturing trades.

The Fellows specializing in Energy and Propulsion Systems went to the Vickers Hydraulics School for a two-week period, for an intensive study of fluid power control systems and components. This experience was held in conjunction with the regular Vickers courses for personnel from the industries, which provided an additional contact with technicians from the field.

During the third week, all twenty-four Fellows went to Electronic Aids, Inc., an electronic research and development corporation, located in Baltimore, Maryland. Those Fellows studying Energy and Propulsion reviewed the EA materials in pneumatics. The Materials and Processes students examined EA's teaching aids for data processing.

The most significant contributions made by these plant schools to the ExTFP were that the Fellows: 1) received up-to-date instruction in the respective technology from practitioners of industry; and 2) had an opportunity to study and exchange ideas with sales personnel, servicemen, technicians, engineers, and management which permitted them to enhance their industrial contacts and to acquire much helpful occupational information.

The third arrangement with industry employed in this program was the provision to bring experts and consultants in to perform demonstrations and make presentations on the implication of their equipment in education. Hundreds of pamphlets and technical reports were given to the Fellows by numerous agencies throughout the Detroit area.

The Role of the University

The project staff perceived its role to be one of infusing new concepts into the instructional program. While the Fellows were acquiring technical competence in one of the two occupational clusters, they were developing skills in research techniques, writing abilities, organizing course materials, instructional technology, and teaching methods.

This was accomplished through the combined efforts of the organizational divisions at WSU, including the College of Engineering, Department of Instructional Technology, School of Business Administration, and other professional education departments.

The involvement of these selected divisions of the University assisted in achieving the goals established for the program. This was furthered through the cooperative planning and structuring of courses. For example, the course in production techniques offered by the Department of Instructional Technology gave the Fellows an opportunity to develop some of the concomitant media used in the development of curriculum materials. The course in advanced methods and materials provided an opportunity for field testing these materials using micro-teaching techniques. A concerted effort was made to focus on current issues, instructional methods, and curriculum materials to implement the AVA "Guide to Improving Instruction in Industrial Arts." The uniqueness of this approach was apparent in the creation of special courses and sections for the Fellows with personnel assisting from several of the organizational divisions of the University.

The Role of the Detroit Public Schools

The success of a venture such as the ExTFP is dependent upon the professional resources that can be mobilized. The expertise of the WSU faculty was not solely relied upon to meet the goals of the program. In a coordinated effort, the joint contributions of personnel from the Detroit Public Schools and the project staff strengthened the working relations and cooperative spirit of the two institutions. This close liaison contributed to a more meaningful in-service experience for the Fellows. The presence of a large public school system in the immediate area of the university was indeed one of the deciding factors in the decision to accept responsibility for operating the project. It was helpful that the Department enjoyed a close contact with the Detroit Public School System which had existed long before the initiation of the project. It proved to be significant that three members of the project staff were formerly employed by the Detroit Public Schools.

The unique contribution of the Detroit Public School System was that it provided an opportunity for the Fellows to field test newly developed instructional materials and to refine instructional methodologies.

Two of the primary objectives of the 1968-69 Experienced Teacher Fellowship Program (ExTFP) at Wayne State University were to: 1) field test the curriculum materials developed using micro-teaching techniques in inner-city schools, and 2) develop a teaching style for high school students that will secure a student commitment to learn. In conjunction with selected Detroit Public Schools, industrial education teachers and department heads, and a number of their respective students worked with the twenty-four Fellows to experiment with micro-teaching to test the effectiveness and efficiency of the instructional packages developed.

One of today's most effective tools in applying technology to the educational process is micro-teaching, when used as a diagnostic tool for the evaluation of individual teacher performance and specific curriculum materials. This innovative approach provides the opportunity to video tape laboratory teaching experiences and then critique them for the purpose of improving classroom presentations. This critique was an important phase of the procedure since it provided the necessary evaluative procedures and constructive criticism essential to relevant pedagogy.

RELATIONS WITH OTHER AGENCIES

The successful completion of a Fellowship Program, such as the ExTFP in industrial arts, requires cooperation and close working relationships with several agencies. In addition to the unique role of industry, the University, and the Detroit Public Schools, the U.S. Office of Education, professional organizations, and major divisions of the University assisted the WSU staff in conducting the project.

U.S. Office of Education

The scheduled meeting of new and previous ExTFP directors in Washington, D.C. to discuss the problems of conducting such projects proved to be very helpful. This exchange of ideas helped the staff avoid many pitfalls, and be better prepared to deal more effectively with the administrative aspects of the project. The general leadership by Donald N. Bigelow and the divisional representative, Mrs. Muriel Tapman, were of considerable value, especially in this early phase of the project.

Throughout the program the cooperation and prompt response by Mrs. Muriel S. Tapman in expediting the releases and forms aided the project staff in meeting deadlines. It was also though her efforts, that considerable insight was provided as to the implementation, direction, and operation of the project. The working relationship with personnel from the U.S. Office of Education was also enhanced by their accessibility to the project staff. It was helpful, for example, for the staff to visit with personnel representing the U.S. Office of Education via the telephone, at workshops, and at national conventions.

Professional Organizations

Local, state, and national professional organizations provided numerous leadership development experiences for the Fellows. They not only became members of several associations, but became actively involved in many professional groups. For example, Thomas H. Boussy was vice-president of the Wayne State Industrial Education Guild; William T. Johnstone and Neil S. Levine represented the Fellows at the National

Laboratory for the Advancement of Education; and no less than twelve Fellows were in attendance at both the American Vocational Association and American Industrial Arts Association Conventions. In fact, six of the Fellows were selected to participate in the three day pre-session research workshop prior to the AVA Convention.

The Fellows also became involved in such organizations as the Fluid Power Society, the American Society of Tool and Manufacturing Engineers, the Michigan Industrial Education Society, and the WSU Industrial Education Guild. Through these opportunities, the Fellows gained considerable insight in various educational fields as they worked on committees, planned programs, and gave leadership to many of the activities. Because of their efforts in the field and high academic achievement, all of the Fellows were invited to join the local chapter of Phi Delta Kappa.

The most significant involvement in this area was with the Industrial Arts Division of the American Vocational Association. As stated previously, the Fellows adopted the goals and format for industrial arts as specified by the AVA "Guide to Improving Instruction in Industrial Arts." Dr. Ernest L. Minelli, Chairman of the committee that developed the Guide, was invited to visit with the Fellows early in the program, to discuss the implementation of this document, and the types of activities on the secondary level that would be most appropriate. Based on this meeting, the Fellows organized their curriculum effort to meet this need. Their efforts were subsequently officially endorsed by the publications committee of the IA Division of the AVA, with the plan that, after subsequent field testing and revision, these materials may be published as the companionpiece to the Guide. Dr. Rutherford E. Lockette, the 1969-70 vice-president of the AVA representing industrial arts, also visited the Fellows to discuss current issues of concern to all industrial educators.

It is hoped that although the ExTFP has formally ended, the involvement between the ExTFP Fellows and staff and the AVA will continue, and that subsequent materials and publications will result from this combined effort.

The University

Beginning with the announcement of the ExTFP grant award and continuing through the conclusion of the project, the administration at WSU offered their enthusiastic interest and support. This was demonstrated through their willingness to provide a special facility for the project, active participation in scheduled events, and institutional support.

The staff members invited to participate in the project were encouraged to do so by their department heads throughout the University. The working relationships with these very competent staff members were extremely satisfying.

Two administrative divisions of the University became directly involved in the project. These were the Grants and Contracts Office and the Accounting Office. The support and advice from the personnel of these Offices were most helpful to the staff in conducting the instructional program.

THE FACILITIES

A wide variety of laboratory facilities were utilized during the program. The choice of combining University, industrial, and public school laboratories was considered to be the most productive way to meet the specific objectives of the project.

In the early phase of the program, the Fellows participated in courses conducted by industry in their in-plant laboratory facilities. The use of such facilities provided an opportunity for the Fellows to have "hands on" experiences utilizing the most up-to-date equipment and materials. The group attending the Vickers Hydraulic School, for example, were able to conduct experimental equipment testing on hydraulic components. The industrial organization of the in-plant laboratories was considered also by the participants to be extremely valuable in viewing the operation of industrial training programs.

The four industrial schools attended by the participants were: (1) Hobart Welding School, (2) Ford Motor Company Manufacturing Plants, (3) Vickers Hydraulics School, and (4) Electronic Aids, Inc. As mentioned, the Fellows visited several Detroit area industries as scheduled plant tours, including the Joseph Lamb Company, Ford Motor Company, General Motors Technical Center, and Detroit Diesel, Inc.

The laboratory facilities of the University included the Computing and Data Processing Center, the Mechanical Engineering Laboratories, and the laboratories in the Department of Industrial Education. Each of these were equipped to provide the technical background needed for the broad-based preparation essential for the implementation of a broad-based approach to occupational education.

The study center provided exclusively for use by the Fellows (Room 30, College of Education) supplemented the other laboratories. It was equipped with duplicating equipment, typewriters, study carrels, a lounge, a library, a conference area, a drafting area, a variety of audio visual aids, video tape recording equipment, and storage cabinets containing instructional supplies. The Fellows used this room extensively for the production of aids, class preparation, and demonstration-experimentation activities. This facility made it possible for the Fellows to meet in small groups and hold many informal discussions. They indicated that the provision of this center was a significant factor in the successful operation of the project.

In addition, the Fellows used the facilities of the Detroit Public Schools. Five inner-city schools were included, and a total of thirteen shops became practical laboratories for the Fellows to use in field testing newly developed instructional materials. This arrangement with the Detroit Public Schools provided opportunities for the Fellows to participate in an on-going program utilizing a multiple activity approach.

THE STAFF

Many persons became directly involved with the administration and instructional functions of this project. The executive committee responsible for the administrative aspects of the program included the Director, Dr. G. Harold Silvius; the Associate Director, Dr. Harold S. Resnick, the Industrial Coordinator, Mr. Earl S. Mills; and the Public Schools Coordinators, Dr. Roy W. Krause (start of Project - April 1, 1970) and Mr. Estell H. Curry (April and May, 1970). These staff members were also directly involved in the instructional phases of the project.

The twenty-four Fellows had the benefits of ten regular full-time staff members and approximately twenty part-time teachers. These staff members were responsible for the scheduled courses and sessions. Nine national leaders also supplemented the instructional program as guest lecturers.

The participating staff was selected because of their special expertise and interest in teacher education, particularly as this preparation relates to industrial education. The cooperation and concerned efforts among the project staff members aided greatly in the success that was achieved. The ability of the staff to become involved with the Fellows in an informal manner contributed greatly to the outcomes of the program. For example, Dr. Abraham Citron and Mrs. Mary Rogers, the two professors involved in teaching the sociology and psychology courses, often team taught in an informal discussion seminar with the Fellows. Dr. Harold S. Resnick combined many of his course objectives with Mr. Thomas E. Burford, Department of Instructional Technology, so that common objectives could be met without duplication of effort. Prof. Gordon Rivers of the Department of Mechanical Engineering provided additional laboratory time for experimentation, materials testing, and research. The philosophy that was adopted regarding coursework was that the official courses provided the means for entering the credit on the official transcripts. The course activities were designed to meet the terminal objectives of the program. Indeed, it often became difficult to determine where one course left off and the next one began.

The majority of the staff were selected prior to the start of the project. However, the Fellows were able to select some of the visiting staff members. This was another way of involving these experienced teachers in leadership development opportunities. These men were established national leaders in the field of industrial education. They

included: Dr. Willis E. Ray, professor, Department of Industrial Technology, the Ohio State University; Mr. Sol M. Silverman, Director of Industrial Arts, Washington, D.C. Public Schools; Dr. Herbert A. Anderson, dean, School of Applied Science and Technology, Stout State University; Dr. George Ditlow, president American Industrial Arts Association; Dr. Rutherford E. Lockette, vice-president for industrial arts, American Vocational Association; Dr. Daniel L. Householder, chairman, Department of Industrial Arts, Purdue University; Dr. Ernest L. Minelli, professor and chairman, Department of Industrial Education and Technology, Central Michigan University; Dr. Robert E. Boston, Assistant Superintendent of Schools, Bloomfield Hills School System; and Dr. C. Nelson Grote, president, American Vocational Association.

The enthusiasm and interest of the staff and Fellows were maintained as a result of the professional relationships that were fostered through group activities, team planning, seminar discussions, and informal meetings. The Fellows reported that the opportunity provided for each of them to serve on a committee and be totally responsible for the arrangements for the guest speakers did much to enhance their own professional growth and development.

CONCURRENT EVALUATION

The purpose of the concurrent evaluation was to acquire feedback from the Fellows and staff in order that appropriate and desirable changes could be made to fulfill the objectives of the program.

The two major roles of the project evaluator were to: (1) develop the necessary instruments for an objective assessment of the on-going project, and (2) maintain close personal contacts and communications, which proved to be the more important. The Fellows were free to discuss problems and make suggestions for improvement of the program. This open dialogue between a key staff member and the Fellows contributed to the constructive modifications made in the operational plan.

The evaluation instruments were designed to acquire information concerning the evaluation of formal activities. These instruments were used following particular activities, and included the rating of pre-program activities, the orientation and briefing sessions, field trips, faculty assessments, and program evaluations at the end of each term by the Fellows and staff.

Pre-Program Activities

The pre-program activities evaluation instrument was designed to determine the effectiveness of initial contact procedures and arrangements in helping the Fellows get established in the Detroit area. The Fellows were also requested to give their general reaction and suggestions. The responses were highly favorable for all items. The following is a summary of the data compiled.

1. Response to initial inquiry

Outstanding	78%
Good	22%
Fair	0%
Marginal	0%
Poor	0%
No Response	0%

2. Time allotment for submitting credentials

Outstanding	44%
Good	48%
Fair	4%
Marginal	4%
Poor	0%
No Response	0%

3. Notification of acceptance

Outstanding	87%
Good	13%
Fair	0%
Marginal	0%
Poor	0%
No Response	0%

4. Descriptive material concerning the program

Outstanding	44%
Good	39%
Fair	17%
Marginal	0%
Poor	0%
No Response	0%

5. Descriptive material concerning the community

Outstanding	26%
Good	48%
Fair	17%
Marginal	0%
Poor	0%
No Response	9%

6. Descriptive material concerning the University

Outstanding	39%
Good	44%
Fair	9%
Marginal	0%
Poor	0%
No Response	9%

7. Descriptive material concerning the University services

Outstanding	35%
Good	39%
Fair	22%
Marginal	4%
Poor	0%
No Response	0%

8. Arrangements for housing

Outstanding	17%
Good	9%
Fair	13%
Marginal	9%
Poor	30%
No Response	22%

9. Arrangements for Pre-registration procedures

Outstanding	74%
Good	26%
Fair	0%
Marginal	0%
Poor	0%
No Response	0%

10. Arrangements for Pre-registration for Payroll

Outstanding	74%
Good	26%
Fair	0%
Marginal	0%
Poor	0%
No Response	0%

11. Notifications of Meetings

Outstanding	44%
Good	39%
Fair	9%
Marginal	4%
Poor	0%
No Response	4%

12. Staff relations

Outstanding	61%
Good	30%
Fair	9%
Marginal	0%
Poor	0%
No Response	0%

The general reaction to the pre-session activities was very favorable. The only negative reaction was the arrangement for the housing which is indicated by the responses in number 8.

Briefing and Orientation Sessions

The briefing and orientation sessions evaluation instrument was designed to collect specific information on various functions of the program and to allow opportunity for free responses. The results indicate a good overall appraisal of both sessions.

The briefing session evaluation instrument requested responses to seven different areas relating specific operations. The following is a summary of the results.

1. Notification of the session

Outstanding	58%
Good	33%
Fair	0%
Marginal	4%
Poor	0%
No Response	4%

2. Official welcome

Outstanding	75%
Good	21%
Fair	0%
Marginal	0%
Poor	0%
No Response	4%

3. Development and rationale of project

Outstanding	54%
Good	42%
Fair	0%
Marginal	0%
Poor	0%
No Response	4%

4. General objectives

Outstanding	42%
Good	50%
Fair	4%
Marginal	0%
Poor	0%
No Response	4%

5. Group organization

Outstanding	46%
Good	46%
Fair	4%
Marginal	0%
Poor	0%
No Response	4%

6. Functions of Room 30

Outstanding	50%
Good	38%
Fair	8%
Marginal	0%
Poor	0%
No Response	4%

7. Opportunity to ask questions

Outstanding	71%
Good	21%
Fair	4%
Marginal	0%
Poor	0%
No Response	4%

The orientation session was designed to introduce the members of the families of both the Fellows and the Staff. Therefore, an informal meeting was conducted and the objectives were rated by the Fellows as follows.

1. Notification of the session

Outstanding	71%
Good	25%
Fair	0%
Marginal	0%
Poor	0%
No Response	4%

2. General welcome

Outstanding	71%
Good	25%
Fair	0%
Marginal	0%
Poor	0%
No Response	4%

3. Introduction of the staff

Outstanding	75%
Good	21%
Fair	0%
Marginal	0%
Poor	0%
No Response	4%

4. Opportunity to get acquainted

Outstanding	63%
Good	33%
Fair	0%
Marginal	0%
Poor	0%
No Response	4%

5. Opportunity to ask questions

Outstanding	75%
Good	21%
Fair	0%
Marginal	0%
Poor	0%
No Response	4%

6. General setting and atmosphere

Outstanding	63%
Good	33%
Fair	0%
Marginal	0%
Poor	0%
No Response	4%

Program Evaluation

At the end of each term (Fall, Winter, and Spring), both the Fellows and the Staff were given an evaluation form to evaluate the program, students, and the staff. Each report was reviewed and changes initiated to improve conditions indicated as being deficient or below maximum effectiveness.

The instrument given to the Fellows covered five different areas: 1) knowledge and skills, 2) presentations, 3) organization, 4) effectiveness, and 5) emphasis and proportion. In addition, opportunity was given for free response. Due to the large amount of data, the information has been compiled into the following table. These data listed in the table for the first four sections are based on a five point scale.

5 Outstanding
4 Good
3 Fair
2 Marginal
1 Poor

	Quarters		
	Fall	Winter	Spring
Knowledge and Skills:			
Increase in content in the field.	4.0	4.1	4.1
Identification of essential content	3.9	4.2	4.2
Improved instructional methodology.	4.2	4.0	4.0
Improved instructional media.	4.2	3.9	3.9
Curriculum improvements and innovations	3.9	4.3	4.4
Presentations:			
By Departmental staff	4.4	4.4	4.5
By staff outside the Department	4.0	3.2	3.5
By guest speakers	3.7	3.9	4.1
Conduct of laboratories, seminars, etc.	4.0	4.0	4.0
Choice of field trips	3.8	3.8	3.9
Conduct of field trips.	4.0	3.8	4.2
Organizations:			
Library	4.0	3.9	3.8
Laboratory.	3.7	3.9	3.9
Instructional Equipment	3.5	3.9	3.8
Conference Area	4.0	4.1	4.3
Room 30 Operation	4.1	4.0	4.2
Exchange of Ideas outside the class	4.3	4.1	4.0
Group Study	4.0	3.9	4.1

Effectiveness	Fall	Quarters Winter	Spring
The program in general	4.4	4.3	4.5
Clearness of the objectives	4.3	4.2	4.5
In terms of your interests	3.6	4.2	4.3
In respect to your expectations	3.6	3.9	4.2
Degree of improvement in teaching competency	3.9	3.9	4.0
Degree of improvement in methodologies	3.9	3.7	3.9
Development of curriculum materials	4.0	4.6	4.4

The purpose of the items listed in the following section was to obtain the Fellows' opinion on the relative amount of time apportioned for the activities listed. The rating is listed in a three point scale as follows:

1. Too much time
2. About the right amount of time
3. Not enough time

Emphasis and Proportion:

	QUARTER 1	2	3
a. Lectures	2.2	1.8	1.9
b. Audio-visual presentation	2.4	2.2	2.2
c. Group participation	2.4	2.2	2.2
d. Field trips	2.2	2.1	2.3
e. Individual study	1.7	2.1	1.9
f. Free time	1.6	2.3	2.1

The faculty members' role in the instruction was a crucial part of the success of the program. It was, therefore, determined that their perception of the Fellows and the impact of the program should be a part of the evaluation. At the end of the fall, winter, and spring quarters, each staff member active in the Program during that term was asked to give his opinion on the quality of the participants and the Program. The questions were carefully selected to avoid opinions that may be biased as a result of personal responsibility.

The faculty members were asked to compare the Fellows to regular graduate students in the following areas: 1) intellectual ability, 2) industriousness, 3) seriousness of purpose, 4) commitment of the field, and 5) initiative. They were requested to rank the Fellows in each of these areas on a five point scale:

1. Decidedly inferior
2. Less capable
3. About the same
4. Outstanding
5. Superior

The Fellows were rated by the faculty above the average graduate students. They were particularly impressed with the Fellows industriousness, seriousness of purpose, commitment to the field, and initiative. In general they rated the Fellows between outstanding and superior. The following is a summary of these data compiled for each quarter and the average for the year.

	QUARTER			
	1	2	3	Average
Intellectual ability	2.5	3.0	3.5	3.0
Industriousness	4.0	4.2	4.7	4.3
Seriousness of purpose	4.0	4.2	4.2	4.1
Commitment to the field	4.0	4.0	4.0	4.0
Knowledge of the field	3.2	3.3	4.0	3.5
Ability to communicate	2.5	3.0	3.5	3.0
Initiative	3.5	4.5	4.0	4.0

The second part of the questionnaire requested specific information concerning the functions of the Program. Faculty members were asked to give their opinion on how effective the Program was in involving the staff, and if the program would prepare the participants to become better teachers and scholars.

Were you adequately appraised of the purpose of the project?

64% yes
35% no
0% uncertain
4% no response

Were you properly involved in the program?

64% yes
15% no
21% uncertain
0% no response

Did participants become better scholars?

70% yes
15% no
0% uncertain
15% no response

Will the participants be better teachers?

89% yes
0% no
4% uncertain
8% no response

Is this a valuable method of updating practicing teachers?

92% yes
0% no
8% uncertain
0% no response

Was this helpful to the instructor?

90% yes
0% no
0% uncertain
10% no response

In summary, responses by the faculty and Fellows to the questions on the evaluation instruments were strongly positive. Their reaction to the Program indicated that it was a very interesting and successful experience. The faculty felt that the students had grown significantly as a result of the Program both in scholarship and in ability to teach.

FOLLOW-UP EVALUATION

With the completion of the third Experienced Teacher Fellowship Program, a follow-up evaluation has been designed to contact the participants to measure the effectiveness of the program. Since there were many strategies incorporated in the three ExTFP's, it is necessary, and indeed timely, to evaluate these promising strategies for implementation into the traditional program in teacher education.

The initial step in developing the methodology for this study was the selection of procedures for collecting data for this evaluation. In selecting the method for securing data, it is necessary to determine the kinds of data needed to arrive at meaningful information that is both valid and reliable.

A review of the objectives of the program was necessary to determine the types of information required for evaluation. The following objectives were listed in the proposal to the U.S. Office of Education for conducting the Experienced Teacher Fellowship Program.

1. To provide selected teachers with in-depth courses in the evolving technical areas of Industrial Materials and Processes, or Energy and Propulsion Systems.

2. To provide supporting short-term intensive instructional programs through industrial field experiences with selected industries and through the program at the WSU Applied Management and Technology Center.

3. To extend the participants understanding of the learning process so as to enable them to work more effectively with multiple-activity classes.

4. To provide participants an opportunity to become more familiar with the sociological factors that now need to be considered by educators in the urban schools.

5. To direct and assist the Fellows in developing course materials, essential for the implementation of the two clusters of the Galaxy Plan.

6. To evaluate the adequacy and quality of preparation in the major area with consideration for:

    - technical competence
    - teaching competence
    - leadership development

7. To provide for experimentation with innovative methods and the field testing of such methods with youth in inner-city schools.

The implementation of the program, based on these objectives resulted in a set of strategies to be designed and incorporated into the ExTFP. These strategies, while not entirely new, were designed specifically for the ExTFP and employed many interesting techniques. A preliminary study involving several of the Fellows who participated in the program indicated that it was one or more of these strategies that made the program successful in their estimation. Each of the above objectives are represented in one or more of the following strategies.

1. "En bloc" procedures
2. Orientation meetings
3. Special fellowship room
4. Departmental involvement
5. Studies in sociological conditions in the inner city
6. Curriculum design and development techniques utilizing instructional technology
7. Industrial schools
8. Field trips to industry
9. Development and testing of curriculum materials
10. Conferences with national leaders in industrial education
11. Outside activities involving all the Fellows
12. A study of innovative programs in industrial education

An analysis of each of the above strategies enabled the evaluation team to develop the tools needed for an in-depth study of the product, or outcome of the ExTFPs. The type of information needed, therefore, is specific information about the individuals who participated in these programs. This information will be compiled through a mail survey instrument of the total population and personal interview of a sampling taken from across the country.

The information collected from the survey instrument and the data from the interviews will be tabulated to determine the value of each strategy in the program. The evaluators observations and recommendations will be developed based on the results of the study.

PART III. CONCLUSIONS

THE PROGRAM IN RETROSPECT

The evaluation of innovative programs planned, conducted, and revised, continually reveals strengths and the weaknesses. Both formal and informal methods of assessment were relied upon to detect the successes and failures of this Fellowship Program. Appraisals by the Fellows, Project staff, and instructional staff were used throughout the year to determine the effectiveness of the Project. Evaluative instruments, periodic reports, and discussions were employed in this task. A more comprehensive report, comprised of a formal evaluation of all three ExTFPs will be forthcoming. This section, then, consists primarily of observations and personal recommendations on the part of the Project Staff.

Desirable Outcomes

Several aspects of this year's program were altered as a result of the evaluation of the 1967-68 and 1968-69 ExTFPs. It was found that these changes caused a marked improvement in the interpersonal relationships between the Fellows, and Fellows and staff, in the very early phases of the project.

The single most important revision was concerned with a more integrated effort to prepare and develop instructional materials that could be used by both teachers and students on the secondary level in the inner-city schools of America. There had been repeated comments from previous Fellows that their values, goals, and philosophy for industrial education had changed, but they lacked the software to implement these changes. The Fellows in the 1969-70 ExTFP elected to work together on a common project to develop these materials. Many Fellows reported this to be the single most significant and unifying aspect of the program.

Another very important revision was concerned with a carefully conducted orientation. This orientation was initiated immediately following selection of the Fellows. News releases, informative material about Detroit, and descriptive material about the Project were sent to the Fellows throughout the summer to set the stage for early rapport between the Fellows and staff. Upon arrival, key staff members for the Project assisted each family in locating housing, and providing information concerning living in the Detroit area. In addition to a series of field trips designed to acquaint the Fellows with industrial Detroit, social events were provided to bring all the families and staff together. This culminated in a Saturday afternoon picnic prior to the formal start of classes.

This initial concern for team rapport and involvement was further facilitated through the en bloc treatment received by the Fellows. It was observed that the specially assigned learning center contributed by the College of Education greatly enhanced group discussion, instruction, and effort in conducting the formal and social activities. As a result of the en bloc treatment, the participants developed a cohesiveness and team spirit in their approach to the assigned tasks.

The central focus in the organizational structure of the program was to provide the participants with an opportunity for personal involvement and leadership development. For example, the Fellows planned and conducted a series of Research in Industrial Education Conferences at WSU, as well as the curriculum development sessions. In the latter, they selected, invited, and hosted eight national leaders in industrial education. Their participation in other professional activities, such as attending state and national conventions, contributing articles to professional journals, and serving as teams of editors for the publication of the Industrial Education Guild News at WSU, all reflect the nature of their personal involvement.

From the outset of the program a team approach was used to utilize the strengths of the staff and Fellows. This is exemplified as stated as the second primary objective for the Program. The enthusiasm generated by this team approach contributed to stimulating discussions, critical evaluations, and a greatly improved quality of instruction. For example, the Fellows worked together as teams every Friday, when they brought videotaping equipment into the selected Detroit inner-city schools to conduct micro-teaching sessions and field test their instructional packages.

These packages represented a team approach in their development. Each Fellow worked with between one and three other Fellows to develop just one of the ten units which comprised the total curriculum. It is easy to see, therefore, that all Fellows were dependent upon one another to produce one cumulative, combined curriculum guide.

Operational Problems

In a Program of this nature, even with the pre-planning by the project staff, several operational problems will be encountered. The nature of the problems were such that they required sensitivity on the part of the Project staff in identifying them, and then attempting to resolve the issues.

The single most perplexing and yet most common problem confronting the Project staff was dealing with psychological adjustments of the participants. Reorientation problems posed by a change of residence, friends, and the role of a teacher to a full-time graduate student resulted in considerable pressures. This pressure often resolved itself in the formation of cliques among several Fellows of the same age group, geographical representation, ethnic background and philosophical outlook. Several times during the program this resulted in conflict among the total group.

The solution to this problem was found in informal sessions in which all Fellows expressed their feelings openly. As with society in general, it was discovered that open and honest communication resolved many of these problems. It is hoped that the future resolution to this problem can be found through a greater emphasis during orientation on the need for sensitivity of all persons involved. An attempt should be made to achieve this through discussion of each Fellow's background and experiences prior to the inception of formal classes. The staff soon recognized that they needed to give attention to these matters. Individual conferences were arranged and several staff members were assigned the responsibility for assisting participants with their personal difficulties. It helped, also, to have the Fellows involved in planning sessions and staff meetings.

Observations

The important observations made in the total operation of the program were: (1) that the en bloc treatment provided for group identification and cohesiveness, and enabled the staff to schedule tailor-made courses to meet the needs of the group; (2) the provision for leadership development opportunities stressed throughout the program contributed significantly to the participants' professional growth and development; (3) the interest and cooperation of the local schools, industries, and the administration of the University contributed significantly to the success of the program; and (4) the development of one unified curriculum through a team approach did much for the total group effort.

The objectives of the program were accomplished through the combined efforts of the project staff, participants, and community resource personnel. Establishing a good esprit de corps early, through the greater emphasis on an increased orientation phase, strengthened the operational base. The participants' constructive and enthusiastic attitudes became cumulative as the project progressed and in turn were instrumental in improving the instructional program. As the program got under way, there was increased emphasis placed upon the utilization of the participants' experiences and competencies. Their diversified background and the exposure to a wide variety of academic and industrial experiences during the program strengthened their technical and pedagogical competencies.

APPENDIX A

This Appendix includes the following information:

APPENDIX

APPENDIX A - 1

EXPERIENCED TEACHER FELLOWSHIP PROGRAM PARTICIPANTS

Name and Pre-Program Home Address	Pre-Program School Address	Post-Program School Address
Thomas H. Boussy 67 Macy Street Quincy, Massachusetts 02169	Frank V. Thompson Middle Sch. 100 Maxwell Street Dorchester, Massachusetts 02124	Frank V. Thompson Middle School 100 Maxwell Street Dorchester, Massachusetts 02124
Henry L. Caston 11904 Silmor Avenue Cleveland, Ohio 44108	Harry E. Davis Jr. High Sch. 10700 Churchill Avenue Cleveland, Ohio 44106	Harry E. Davis Jr. High Sch. 10700 Churchill Avenue Cleveland, Ohio 44106
Larry E. Claiborne 12644 Griggs Detroit, Michigan 48238	Munger Jr. High School 5525 Martin Detroit, Michigan 48210	Munger Jr. High School 5525 Martin Detroit, Michigan 48210
Jerry Cohen 23561 Morton Avenue Oak Park, Michigan 48237	Pershing High School 18875 Ryan Road Detroit, Michigan 48234	Troy High School 3179 Livernois Troy, Michigan 48084
Harry Francis 12788 Marlowe Detroit, Michigan 48227	Wyoming Board of Education 500 Grove Avenue Cincinnati, Ohio 45215	
Frank H. Harper 4573 No. 24th Street Milwaukee, Wisconsin 53209	Milwaukee Public Schools 5225 West Vliet Street Milwaukee, Wisconsin 53208	Milwaukee Public Schools 5225 West Vliet Street Milwaukee, Wisconsin 53208
Loyal Huffman 24349 Rougecrest Southfield, Michigan 48075	Emerson Jr. High School 18240 Huntington Detroit, Michigan 48219	Emerson Jr. High School 18240 Huntington Detroit, Michigan 48219
Milan F. Huley 2103 N. 107th Street Wauwatosa, Wisconsin 53226	Milwaukee Public Schools 5225 West Vliet Street Milwaukee, Wisconsin 53208	Milwaukee Public Schools 5225 West Vliet Street Milwaukee, Wisconsin 53208
Frank R. Iiames 922 S. 14th Street Lantana, Florida 33462	Board of Public Instruction P. O. Box 2469 West Palm Beach, Florida 33402	Board of Public Instruction P. O. Box 2469 West Palm Beach, Florida 33402

APPENDIX A - 1 (Cont.)

EXPERIENCED TEACHER FELLOWSHIP PROGRAM PARTICIPANTS

Name and Pre-Program Home Address	Pre-Program School Address	Post-Program School Address
Joseph Jandasek 8211 Grand River Brighton, Michigan 48116	Adlai E. Stevenson High Sch. 33500 W. Six Mile Road Livonia, Michigan 48152	Adlai E. Stevenson High Sch. 33500 W. Six Mile Road Livonia, Michigan 48152
Charles A. Johnson N.113 W.12990 Crestview Dr. Germantown, Wisconsin 53022	Board of School Directors 4141 No. 64th Street Milwaukee, Wisconsin 53216	Board of School Directors 4141 No. 64th Street Milwaukee, Wisconsin 53216
William T. Johnstone Langford Road Plymouth, Massachusetts 02360	Plymouth-Carver Reg. Sch. Sandwich Street Plymouth, Massachusetts 02360	Plymouth-Carver Reg. Sch. Sandwich Street Plymouth, Massachusetts 02360
Herman L. Jones 112-24 Northern Blvd. 3D Corona, New York 11368	J.H.S. 120 Man 18 E. 120 Street New York, New York 10035	J.H.S. 120 Man 18 E. 120 Street New York, New York 10035
Arthur J. Lawson 17113 Holly Hill Drive Cleveland, Ohio 44128	Harry E. Davis Jr. High Sch. 10700 Churchill Avenue Cleveland, Ohio 44106	Harry E. Davis Jr. High Sch. 10700 Churchill Avenue Cleveland, Ohio 44106
Neil S. Levine 16620 Greenfield Rd Apartment 101 Detroit, Michigan 48235	Walt Whitman H. S. 246 Veronica Place & Snyder Ave. Brooklyn, New York 11226	East Junior High School Middlebelt Road Farmington, Michigan 48024
Robert McQueen, Jr. 7245 Scott Street Apartment 101 Houston, Texas	Alcorn A. & M. College Lorman, Mississippi 39096	Texas Southern University School of Industries Houston, Texas 77004
Ronald P. Miscisin 2906 E. Pierson Flint, Michigan 48506	Northwestern Community H. Sch. G-2138 W. Carpenter Road Flint, Michigan 48505	Northwestern Community H. Sch. G-2138 W. Carpenter Road Flint, Michigan 48505
Rolland H. Pardonnet 32446 Hees Livonia, Michigan 48150	Spain Junior High School 3700 Beaubien Detroit, Michigan 48201	Spain Junior High School 3700 Beaubien Detroit, Michigan 48201

APPENDIX A - 1 (Cont.)

EXPERIENCED TEACHER FELLOWSHIP PROGRAM PARTICIPANTS

Name and Pre-Program Home Address	Pre-Program School Address	Post-Program School Address
Thomas P. Perkins 4508 Prentiss Avenue New Orleans, Louisiana 70126	Orleans Parish School Board 2600 S. Rocheblave Street New Orleans, Louisiana 70125	Christopher Homes 7887 Walmsley Avenue New Orleans, Louisiana 70125
Nova John Popovich 27 Evelyn Court Pontiac, Michigan 48053	Beaubien Junior High Sch. 19701 Wyoming Detroit, Michigan 48221	Pontiac Motor Division 1 Pontiac Plaza Pontiac, Michigan 48053
Billy G. Toney Route #2 Ashville, Ohio 43103	Mohawk Junior-Senior High Sch. 270 East State Street Columbus, Ohio 43215	Teays Valley High School Ashville, Ohio 43103
Herbert J. Wiest 4039 Fotos Court Sacramento, California 95820	Sacramento Unified Sch. Dist. 16th & N. Street Sacramento, California 95814	Sacramento Unified Sch. Dist. 16th & N. Street Sacramento, California 95814
Thomas D. Wilson 1526 Eddington Road E. Cleveland, Ohio 43147	Harry E. Davis Jr. High Sch. 10700 Churchill Avenue Cleveland, Ohio 44106	Harry E. Davis Jr. High Sch. 10700 Churchill Avenue Cleveland, Ohio 44106
Dick Winter 308 Lockville Road Pickerington, Ohio 43147	Sherwood Jr. High School 270 East State Street Columbus, Ohio 43215	Sherwood Jr. High School 270 East State Street Columbus, Ohio 43215

APPENDIX A-2

EVALUATION AND SELECTION TEAM

Dr. G. Harold Silvius, Project Director
Address: 201 East Kirby, Detroit, Michigan 48202
Phone: 872-7776

Dr. Harold S. Resnick, Associate Director for 1968-69 and 1969-70 ExTFP
Address: 339 Windsor Drive, Cherry Hill, New Jersey 08034
Phone: (609) 667-9177

Earl S. Mills, Industrial Coordinator for 1968-69 and 1969-70 ExTFP
Address: 13836 Fordham, Detroit, Michigan 48205
Phone: 527-7294

Roy W. Krause, Public Schools Coordinator for 1969-70 ExTFP
Address: 22412 Corteville, St. Clair Shores, Michigan 48081
Phone: 294-2497

Project Evaluators (members of the 1968-69 ExTFP)

Michael P. Bjur
Rt. 1, Box 70
Ridgefield, Washington 98642

Dean Cornwell
12107 W. Woodland
Wauwatosa, Wisconsin 53226

Albert W. Dahlberg
31160 Dolly Madison Drive
Madison Heights, Michigan 48071

Arthur Deane
3149 Allentown Road
Lima, Ohio 45807

Alsce Johnson, Jr.
157 Glover Street
Orangebury, South Carolina 29115

Eugene Simms
16566 Asbury Park
Detroit, Michigan 48235

APPENDIX A-2 (cont.)
FELLOWSHIP ANALYSIS FORM
EXPERIENCED TEACHER FELLOWSHIP PROGRAM

NAME_____ Total Points_____(100 possible)

Qualification Categories: Points

A. Overall Honor Point Average
(undergraduate-taken from transcript)
(A=4, B=3, etc.)
_____ x 2 (0 - 8)
(8 possible)

B. Upper Division Honor Point Average
(last two years of undergraduate work)
(taken from transcript - min. 2.6 average)
_____ x 3 (0 - 12)
(12 possible)

C. Supporting and Related Work

	Number of Courses
Mathematics	____(4 max.)
Science	____(4 max.)
Professional Courses in IA	____(3 max.)
Industrial School Experiences	____(2 max.)
Workshop and Institutes (in IE)	____(2 max.)

Content Courses:
Materials and Processes ____(5 max.)
or
Energy and Propulsion

Total Courses ____(20 max.)

Conversion Table:
15 - 20 Courses = 10 points
12 - 14 Courses = 7 points
9 - 11 Courses = 4 points
6 - 8 Courses = 2 points

(10 possible)

D. Nature and Extent of Teaching Experience
Years - IA teaching
3 or more - 7 points
2 years - 5 points
1 year - 3 points

(7 possible)

APPENDIX A - 2 (Cont.)

NAME_____

E. Nature and Extent of Industrial Work Experience

Length of Service in Industry and/or Related Fields

5 or more years = 5 points
2 - 4 years = 3 points
1 year = 1 point

(5 possible)

F. Potential for Teaching and Leadership

Recommendations

Strong = 5 points
Good = 3 points
Average= 2 points
Poor = 0 - 1 points

(5 possible)

G. Team Application

2 - 3 man team 10 points
1 man 0 points

(10 possible)

H. Big City Application

Rank 1-10 Inner-City 15 points
11-25 Inner-City 10 points

(15 possible)

I. Professional Qualities (autobiographical statement)

A. Written communication
1. Ability to express ideas 6 points _____
2. Desire 6 points _____
3. Potential 4 points _____

B. Leadership Activities
1. Group or team organization 3 points_____
2. Officer in Professional Organization 3 points_____
3. Authorship 3 points_____
4. Significant contributions 3 points_____

Total_____
(28 possible)

APPENDIX A - 3

SELECTED FORM LETTERS

41A - Letter to Teacher Education Institutions

41B - Letter to Directors of the Twenty-Five Largest U.S. Cities

41C - Letter to Individual Schools of Twenty-Five Largest Cities

41D - Letter to State Directors

41E - Letter to Supervisors of Cities of 100,000 - 500,000

41F - Letter to Detroit Schools

41G - Letter Responding to Individual Requests

41H - Letter of Rejection

41I - Letter of Rejection

WAYNE STATE UNIVERSITY

COLLEGE OF EDUCATION DETROIT, MICHIGAN 48202

DEPARTMENT OF INDUSTRIAL EDUCATION

February 26, 1969

LETTER TO TEACHER EDUCATION INSTITUTIONS

Dear Sir:

Enclosed you will find three copies of the brochure describing the 1969-70 Experienced Teacher Fellowship Program that will be conducted during the next academic year by the Department of Industrial Education at Wayne State University. This Program will specialize in preparing teachers for inner-city leadership development.

We would appreciate it very much if you would post one of these brochures on a bulletin board where your students could see it, and distribute the other brochures among your staff. As you can see, the application deadline date is April 6, 1969, and therefore it would be helpful if you could disseminate these brochures as rapidly as possible.

If you would like any additional copies of these brochures, they are yours for the asking. Thank you very much for your kind consideration.

Sincerely yours,

Harold Resnick

Harold S. Resnick
Associate Director, ExTFP

WAYNE STATE UNIVERSITY

COLLEGE OF EDUCATION DETROIT, MICHIGAN 48202

DEPARTMENT OF INDUSTRIAL EDUCATION

LETTERS TO DIRECTORS OF THE
TWENTY-FIVE LARGEST U.S. CITIES

As you may know, the Department of Industrial Education at Wayne State University has had its Experienced Teacher Fellowship Program refunded for the 1969-70 academic year, and for the third time. It is the purpose of this program to bring twenty Fellows from all over the United States to the WSU campus for one year to become oriented to the Galaxy Approach in industrial education, and to earn a master's degree. These Fellows will then return to their home cities to implement an optimum program of industrial arts.

One of the most significant factors of this program will be its attempt to select teachers from the inner-city areas of our large urban schools, and help them develop an industrial education program designed especially for inner-city youth. It is our hope to involve two, or possibly three teachers from the same city as a team, with the belief that this will greatly increase the implementation of the program.

As you may recall, when our Program was funded last year, we sent a number of descriptive brochures to your office and asked that you filter these down to the individual schools. Unfortunately, this process tended to be slow and tedious. This year, we would like to increase our efficiency by sending the brochures directly to the schools. Could you please, therefore, send us a list of the names and addresses of all of your secondary schools classified within the inner-city of your school system? If you do not have such a list, could you then please send us the names and addresses of all of your secondary schools in the total city, and we will send brochures directly to each of these schools. We will, of course, also send a number of these brochures directly to your office for your personal dissemination, if you so desire.

Since we expect that our brochures will be ready within the next week to ten days, we would appreciate your reply as soon as possible. A self-addressed, stamped envelope has been enclosed for your convenience. Thank you very much.

Sincerely,

Harold S. Resnick
Associate Director
1969-70 ExTFP

HSR:mrt

WAYNE STATE UNIVERSITY
COLLEGE OF EDUCATION DETROIT, MICHIGAN 48202

DEPARTMENT OF INDUSTRIAL EDUCATION

March 14, 1969

LETTERS SENT TO INDIVIDUAL SCHOOLS OF
TWENTY-FIVE LARGEST CITIES

Dear Sir:

Enclosed you will find several copies of a brochure describing the 1969-70 Experienced Teacher Fellowship Program to be conducted for the 1969-70 academic year by the Department of Industrial Education at Wayne State University in Detroit, Michigan. This is a Program that leads to a master's degree, and has been geared especially for teachers who are currently teaching in one of America's great cities. Your city has been selected as one of these cities. We are hoping to bring two, or possibly three teachers from your city to WSU to work in this Program next year. The chances for applications from your city would, therefore, be very favorably accepted.

Please note that the request for application contains a space for a team co-applicant. If you, or one of your staff members, would like to apply and could apply with a team applicant from the same system, this would be regarded even more favorably.

Would you please distribute these brochures among your staff, and post one in a prominent place? Since the deadline for applications is April 6, 1969, we would appreciate your greatest expediency in disseminating this information.

If I can be of any further assistance to you, please feel free to contact me. Your kind consideration is greatly appreciated.

Sincerely yours,

Harold S. Resnick
Associate Director, ExTFP

WAYNE STATE UNIVERSITY
COLLEGE OF EDUCATION
DETROIT, MICHIGAN 48202

DEPARTMENT OF INDUSTRIAL EDUCATION

LETTERS TO STATE DIRECTORS

Dear State Director:

The Department of Industrial Education at Wayne State University has had its Experienced Teacher Fellowship Program refunded for the 1968-69 academic year. Next year's project is the only federally funded fellowship program of its kind for industrial arts education in the United States.

We are enclosing several copies of a brochure that describes the program in detail for your use and files. A goodly number has been sent to all the Standard Metropolitan Schools in your state.

If you desire additional copies, or information, please feel free to contact Mr. Leslie H. Cochran, Associate Director, 221 College of Education.

Sincerely,

G. Harold Silvius

G. Harold Silvius
Project Director

Enclosure
GHS:es

WAYNE STATE UNIVERSITY

COLLEGE OF EDUCATION DETROIT, MICHIGAN 48202

DEPARTMENT OF INDUSTRIAL EDUCATION

February 26, 1969

LETTER TO SUPERVISORS OF CITIES OF
100,000 to 500,000

Dear Sir:

Enclosed you will find twenty copies of a brochure describing the 1969-70 Experienced Teacher Fellowship Program to be conducted by the Department of Industrial Education at Wayne State University in Detroit, Michigan. This is a Program leading to a master's degree for the participants, emphasizing training of personnel for inner-city leadership development.

There are several factors in this year's Program that differ from the brochures that you received last year. First, this Program will emphasize the large urban areas of the United States. Therefore, applicants from your city will be received more favorably than applicants from rural areas. In the second place, team co-applicants from the same school systems will be received quite favorably, since it is believed that a team of two or three Fellows will be able to return and better implement the program.

Will you please distribute and disseminate these brochures among your teachers, and also post several of them in a prominent place? Since the deadline date for applications is April 6, your greatest expediency in distributing these brochures would be most appreciated.

If we can be of any further assistance to you, or if you would like any additional copies of these brochures, please feel free to contact us. Your kind consideration is greatly appreciated.

Sincerely yours,

Harold S. Resnick

Harold S. Resnick
Associate Director, ExTFP

WAYNE STATE UNIVERSITY
COLLEGE OF EDUCATION
DETROIT, MICHIGAN 48202

DEPARTMENT OF INDUSTRIAL EDUCATION

February 26, 1969

LETTER TO DETROIT SCHOOLS

Dear Sir:

Enclosed are several brochures describing the Experienced Teacher Fellowship Program to be conducted for the 1969-70 academic year by the Department of Industrial Education at Wayne State University. This is a Program in inner-city leadership development, and has been geared for large urban areas like Detroit. Several of the teachers currently in the Detroit System have already gone through this Experienced Teacher Fellowship Program in previous years.

Of vital importance to you, as a Detroit teacher and a Department Chairman, is the fact that six of the twenty-four Fellows in this Program will be selected from the Detroit Metropolitan Area. This means that an application submitted by yourself or by any of the members of your staff would be reacted to quite favorably.

We would appreciate it very much if you would examine these brochures carefully, and distribute them among your staff. Would you also please post one in a prominent place so that all of your department members can see it. This would be very fine publicity for your Industrial Education Department if it were placed in a prominent area where all the teachers in the school could see it. Please note that the deadline date for application to this Program is April 6, 1969.

Your kind consideration is greatly appreciated. If we can be of any further assistance to you, please contact us either by mail or by calling 577-1780.

Sincerely yours,

Harold Resnick

Harold S. Resnick
Associate Director, ExTFP

WAYNE STATE UNIVERSITY

COLLEGE OF EDUCATION DETROIT, MICHIGAN 48202

DEPARTMENT OF INDUSTRIAL EDUCATION

February 26, 1969

LETTERS RESPONDING TO
INDIVIDUAL REQUESTS

Dear Sir:

Enclosed is a brochure describing our 1969-70 Experienced Teacher Fellowship Program, and the application form for this Program that you requested. Please note that the Program is geared toward inner-city leadership development, and will run for the academic year of September, 1969 through June, 1970. This Program culminates in a master's degree.

Emphasis has been placed on a team application. Therefore, if you know of an individual who might wish to co-apply with you from the same school system, your application would be reacted to with great favor. If we can be of any further assistance to you, please feel free to contact us. When we receive your application, we will send you the other materials that must be completed for acceptance to the Program.

Sincerely yours,

Harold Resnick

Harold S. Resnick
Associate Director, ExTFP

WAYNE STATE UNIVERSITY
COLLEGE OF EDUCATION
DETROIT, MICHIGAN 48202

DEPARTMENT OF INDUSTRIAL EDUCATION

April 16, 1969

LETTER OF REJECTION

We regret to inform you that we are not able to accept you as a Fellow in our Experienced Teacher Fellowship Program at Wayne State University. The response to this program has been very gratifying, and we have received over eight hundred inquiries from many well-qualified persons. Unfortunately, the number of Fellowships is limited to twenty-four, and, for that reason, we are unable to accept many applicants who presented very impressive credentials.

We thank you for your interest in our Experienced Teacher Fellowship Program. Should we be successful in having a funded Fellowship Program next year, we hope that you will apply and possibly be successful in being selected.

Sincerely yours,

G. Harold Silvius

G. Harold Silvius
Project Director

WAYNE STATE UNIVERSITY
COLLEGE OF EDUCATION
DETROIT, MICHIGAN 48202

DEPARTMENT OF INDUSTRIAL EDUCATION

April 16, 1969

LETTER OF REJECTION

We regret to inform you that we are not able to accept you as a Fellow in our Experienced Teacher Fellowship Program at Wayne State University inasmuch as your credentials were not complete at the time of selection. As you may note in the brochure, the deadline date for credentials was April 6, and an extra week was allowed for those materials that may have taken extra time in processing through the mail. However, at the time of selection, there were too many items missing from your file to make a total evaluation possible.

We thank you for your interest in our Experienced Teacher Fellowship Program. Should we be successful in having a funded Fellowship Program next year, we hope that you will apply and possibly be successful in being selected.

Sincerely yours,

G. Harold Silvius

G. Harold Silvius
Project Director

APPENDIX A - 4

PUBLICITY BROCHURE

APPENDIX A - 5

STAFF DIRECTORY

Name		
Brown, Arthur	(EHP 7601) Educ. History & Philosphy	399 Education Building
Brown, Francis J.	(GB 0562) Bus. Admin. Auto Data Processing Principles	328 Prentiss Building
Burford, Thomas E.	(I T 5762) Educ. Instructional Technology	229 Education Building
Citron, Abraham F.	(EDS 6628) Educ. Sociology	267 Education Building
Curry, Estell H.	Public Schools Coordination	214 Education Building
Goldberg, Joel	(IED 5175) Educ. Electronics	Macomb County Community College Warren, Michigan
Krause, Roy W. (Public Schools Coordinator)	(IED 6187) Educ. Public Schools Coordination	214 Education Building
Mills, Earl S. (Industrial Coordinator)	(IED 6170) Educ. Industrial School Experiences	213 Education Building
Nagohosian, John	(IED 6173) Educ. Energy & Propulsion Systems	Henry Ford Community College Dearborn, Michigan
Resnick, Harold S. (Associate Director)	(IED 7187, 6185, 7189) Educ. Introductory and Terminal Masters Seminar Organizing Course Materials	214 Education Building
Rivers, Gordon	(M E 0511) Engg. Mechanical Engineering	4855 Fourth

APPENDIX A - 5 (Cont.)

Rogers, Mary	(EDP 5740) Educ. Educational Psychology	343 Education Building
Silvius, G. Harold (Project Director)	Program Leadership in Direction	215 Education Building
Wurtz, Robert E.	(EGC 7708) Educ. Occupational Information	329 Education Building

APPENDIX B

OPERATIONAL BUDGET

ExTFP Grant (302-1625) 24 Fellowships $2,500 per Fellow		$60,000
1)	Overhead	8 percent
2)	Instructional Staff Salary and Benefits-Associate Director Coordinators, and special supporting staff	40 percent
3)	Secretarial and Clerical Staff Salary and Benefits for Secretaries, and Technicians	15 percent
4)	Printing and Publishing Publicity brochures, and final report	3 percent
5)	Honoraria Educational Consultants and Cooperating Detroit Public School Teachers	6 percent
6)	Travel Directors and Staff Visits to Conferences, Workshops, and Local Schools; and Consultants Expenses	6 percent
7)	Equipment Purchased Small hand tools, replacement parts, and instructional aids	2 percent
8)	Supplies - office Stationary, stamps, office equipment, Rental and General Supplies	5 percent
9)	Supplies - Instructional Transparencies, audio and visual tapes, programmed instruction materials, films, instructional aids	7 percent

APPENDIX B (Cont.)

10)	Duplication of curriculum materials	6 percent
11)	Conference Activities Rental of Conference Space, Equipment, and Materials	1 percent
12)	Library Materials Periodicals, reference books, and technical brochures	1 percent