Attracting Students and Professionals into Math, Science,
and Technology Education at the Elementary and Middle Grades

Final Report
September 1, 1992 - February 28, 1994

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The following are the program objectives for the project. The objectives achieved during the period August 31, 1993 and February 28, 1994 are set in **boldface**:

Program Objectives

- Develop a model laboratory/classroom for teacher education at the WSU-TC campus.
 - Provide financial incentives for students with technical majors to complete the MIT program.
 - Emphasize issues of equity and minority participation in mathematics, science and technology education through recruitment procedures and in MIT course content.
 - **Document activities and procedures for the purposes of evaluation and dissemination of descriptive information.**
 - **Generate case studies of the MIT students going through this program to provide research and evaluation data on the process of attracting technically qualified people into elementary and middle school teaching.**
 - Establish a program of mentoring between scientists, engineers, and mathematicians from PNL and prospective teachers in the MIT program at WSU-TC.
 - Establish a program of mentoring between master teachers in area schools and prospective teachers in the MIT program at WSU-TC.
 - Create MIT program mechanisms to use the math/science mentoring teams as a means of strengthening the overall competence of MIT students in math and science.
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- **Document activities and procedures for the purposes of evaluation and dissemination of descriptive information.**
 - **Generate case studies of the MIT students going through this program to provide research and evaluation data on the process of attracting technically qualified people into elementary and middle school teaching.**

Students selected for the program are listed in Attachment 1. They each went through an entry interview which are summarized in Attachment 2. This protocol will be conducted again at the end of their MIT program at WSU Tri-Cities. Additional information is still being gathered from mentor teachers and WSU student teacher supervisors on the progress of these

students in various components of the teacher preparation program. The overall Evaluation Plan is shown in Attachment 3. This plan was not completed within the funding period of this grant.

- **Establish a program of mentoring between master teachers in area schools and prospective teachers in the MIT program at WSU-TC.**

Each student was assigned to two different mentor teachers. In each case at least one of them was an exemplary teacher in the area of math and/or science. Placements were made also to maximize exposure to culturally diverse classrooms with student populations at least 50% from minority cultures.

- **Establish a program of mentoring between scientists, engineers, and mathematicians from PNL and prospective teachers in the MIT program at WSU-TC.**

Students C, D, and E were given summer appointments at PNL. Student A was already working as a research assistant at PNL as part of her ongoing graduate program in biology. Student B was a previous employee of PNL and in conjunction with her new baby elected not to take a summer appointment.

- **Create MIT program mechanisms to use the math/science mentoring teams as a means of strengthening the overall competence of MIT students in math and science.**

This objective was not met. Improved organization during a second year of this project could result in increasing the impact of the math and science backgrounds of these students on the MIT program. Unfortunately, funding from DOE for these types of programs was terminated after one year.

ATTACHMENT 1

Washington State University Tri-Cities
 Attracting Students and Professionals into Math, Science,
 and Technology Education at the Elementary and Middle Grades
 (partially supported by Department of Energy Grant: DE-FG06-92ER75776)

Supported Students for 1993-94
 each receiving \$1779.00, .5 academic year tuition as stipend

Name	Birth	Undgergrad. Major	Institution	Year	GPA	GRE Verb	GRE Quant	Analv
A	1956	GS Biology	WSU TC	1993	3.91	580	680	720
B	1966	Chemistry	Albion College	1988	3.4	400	560	560
C	1961	Mathematics	Ohio State U.	1985	2.35	390	620	590
D	1958	Ag.. Business	Mont. State U.	1980	2.95	400	570	430
E	1949	GS English	WSU TC	1993	3.45	660	640	680

Credits in:

Name	Math	Science	Job & Other academic experience
A	7	33	Research assistant with Dr. Brooks at PNL
B	6	31	Cum Laude; PNL Chemist
C	76	80	Owens gymnastics gym
D	15	19	Vet. assist., Farm, Qtr. Horse, Med. benefit
E	12	12	Phi Beta Kappa; USMC electronics, avionics, radar

ATTACHMENT 2

Summary of Entry Interviews Oct. 29, 1993

1. What are your teaching interests and goals?

High School	3	initially but changing mind
Middle School	3	
Intermediate	3	
Primary	1	

2. What factors played a role in choosing career move?

	Positive (move toward)	Negative (move away from)
Instructional experience	5	
Parents/friends	4	
Current job	1	2
Previous teachers		1

3. What relationship do you see between your background and teaching?

	Positive Influence	Negative Influence
Skills & Knowledge	4	
Different perspective	2	1
World of work	1	
Uncertain	1	

4. What would best promote your ability to use m/s background in teaching?

Teacher mentor	5
MIT program	3
Informal observation	2
PNL assignment	2
Access to ed. materials	1

ATTACHMENT 3

EVALUATION PLAN

Entry Interview

What are their initial teaching interests and goals?
What part did DOE program play in choosing career move now?
What relationship do they see between their background and teaching?
What would best promote their ability to use m/s background in teaching?

1st Year Experiences in MIT Program

What is their performance in courses?
What is the effect of their background to other MIT students?
What is their overall attitude toward teaching?

1st Year Experiences with Teacher Mentor

Describe mentoring context: building, facilities, and Mentor qualifications
Document the amount of time spent with Mentor.
What is the Mentor's evaluation of student?
What is student's evaluation of Mentor and experience?
What was accomplished during this experience?

Battelle Appointment

Describe professional science context.
What is the Scientist's evaluation of student?
What is student's evaluation of Scientist and experience?
What was accomplished during this experience?

2nd Year Practicum Experiences

Pre-Internship evaluation of student.
Student Teaching evaluations of student
Document role of math and science in these experiences.

Exit interview

What are their teaching interests and goals?
What part did DOE program play in furthering their career goals?
What relationship do they see between their background and teaching?
What would best promote their ability to use m/s background in teaching?

1st Year Job Placement

Describe 1st year jobs.
Describe reasons for those who are not placed.