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ABSTRACT
        Three training programs in the Pittsburgh-based
project to design new approaches to training educational R & D
personnel focus on the development and conduct of local change
programs. Each of the training programs includes work within the
training contexts of course work, laboratory exercises or projects,
internship experiences, and individualized training program guidance.
The content of the three programs is consistent with the theoretical
and methodological bases for designing local educational change
programs as described by Simonds and St. Lawrence (1972). The
developed units reflect a heavy reliance on readings and
lecture/discussion sessions. Individualization and relevance have
been attained through the use of individual conferences, job-related
projects, and practicum experiences. The weaknesses of long term
university-based programs have been partially overcome by making
students productive before they finish their formal instructional
program and by recruiting students with some professional experience
in education. The employers who were financially supporting the
participants in the short term programs were assured of an immediate
payoff if they allowed their "employee-trainees" to implement their
program-developed proposals on the job. Related documents are EA 004
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RESEARCH TRAINING THROUGH A MULTIPLE SYSTEM CONSORTIUM: SIX PAPERS

1. The Pittsburgh-Based Project to Train Educational R&D Personnel. Glen Heathers

2. Methodological and Theoretical Bases for Designing Local Educational Change Programs. J. Todd Simonds and Theodora St. Lawrence

3. Making Local Change Programs Relevant to Students' Needs. John L. Morgan and Alfonzo Washington

4. The Design of Programs to Train Personnel to Develop and Conduct Programs of Local Change. Robert F. Nicely, Jr.

5. Individualizing Guidance and Training of Local Change Specialists. Hiawatha Fountain

6. Evaluation of Programs to Train Educational R&D Personnel. Jane P. Woodward and John L. Yeager

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THE DESIGN OF PROGRAMS TO TRAIN PERSONNEL TO
DEVELOP AND CONDUCT PROGRAMS OF LOCAL CHANGE

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The Pittsburgh-based program to design new approaches to training

personnel in the development, diffusion and utilization of instructional

innovations focused on the development and conduct of local change programs

and on curriculum development. The choice of local change programs as an

emphasis was made for several reasons. The pay-off of the processes of

instructional innovation is found in changes in the instruction provided

students. Local change programs provide the route for bringing innovations

into the schools. Local change involves decisions about the goals to be

reached and how instructional components are involved in reaching them.

Local change programs involve changing curricula and instructional procedures,

initiating new teacher training, and applying competencies in evaluation and

management.

Simonds (1970) has analyzed university-based and employer/agency-based

training programs. He finds that university-based programs typically have

the following characteristics: (1) the training is generally extensive and

long-term, requiring two or more years for completion; (2) usually all of

the individual's formal professional training is restricted to this pre-

service education; (3) the emphasis is placed on providing a full conceptual

foundation for the discipline; (4) the training is expensive for both the

individual and the institution; (5) the trainee's productivity in his field

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is delayed due to the length of the program; and (6) the individual's prior academic experience need not be related to the profession. The employer/ agency-based training programs typically have these characteristics: (1) the training is intensive and short-term, ranging from one week to a few months; (2) training is introduced at critical points in the individual's career; (3) the emphasis is placed on providing the skills required for a particular job; (4) the trainee is paid for his time in the training program, and the employer is repaid by the increased productivity of the individual; (5) the initial training period is designed to get the trainee producing as fast as possible, and subsequent training is offered to an individual after he has demonstrated high productivity; and (6) the individual's prior academic experience is expected to be related to the employer's work.

The Pittsburgh-based training programs incorporate many of the strong characteristics of both types of programs and modify some of the weaker characteristics. Each of the three training programs (Short-Term Program to Train Designers of Local Change Programs, Short-Term Program to Train Personnel from Community Organizations to Design and Conduct Local Change Programs, and Long-Term Program to Train Personnel to Design and Conduct Local Change Programs) includes work in four types of training contexts. These are course work, laboratory exercises or projects, internship experiences, and individualized training program guidance. Generally, course work and labs precede, and provide a foundation for, internship experiences. The curriculum for each of the local change programs is divided into three categories: the context of educational change, the goals of educational change, and the procedures (task flow) for designing a program of change. (Simonds and St. Lawrence, 1972.)

Short-Term Program to Train Designers of Local Change Programs

The participants chosen for the program held jobs that required them to work directly or indirectly with school districts in the design and conduct of local change programs. (For a complete account of recruitment and selection procedures for all programs, see Fountain, 1972.) The sponsoring agencies continued to pay the salaries of the participants and the project gave them a stipend to cover travel and living expenses during the training period.

The program was scheduled in three segments of three, two and one weeks with the participants spending five six-hour days on site each week. This provided sufficient time to cover the material judged necessary, and minimized the interruptions in their jobs. Further, and perhaps most important, it allowed the participants to apply new knowledge and skills to their work during the interims. These on-the-job experiences created a demand for later training activities.

Table I indicates the nature and extent of coverage provided in each of the curricular areas. Competency (knowledge and/or skills) in each of these areas is vital to the designer of change in schools. The program, therefore, isolated the inter-relation of these areas as a critical factor in the ultimate validity of a change design: decisions regarding procedure, for example must take account of variables related to the goals and the broader context of the change. To bring this interplay into perspective, and to avoid depicting it as an overwhelmingly complex aspect of change design, the program was structured to move from a consideration of the different areas in isolation to a set of activities in which variables from two or three areas operated simultaneously. This is reflected in

TABLE 1

PROGRAM COVERAGE BY UNITS
(Unit Number in Parentheses)

Context of Educational Change	Goals of Educational Change	Procedures for the Design of Change
(2) Types of Local Change Programs (LCPs)	(5) Ideas and Inquiry	(12) The LCP Design Model
(3) The Educational Reform Movement (Overview)	(6) Self-Directed Learning	(13) Role Playing (Interpersonal Skills)
(4) Positions and Roles of Local Change Specialists (LCSs)	(7) Mastery	(14) Establishing a Working Relationship with the LCP School System
(20) Change Theory Seminar	(8) Individualization	(15) Determining the School System's Aims; Assessing their Present Level of Accomplishment
(21) Case Studies	(9) Personal/Social Development	(16) Analyzing Causes of Shortcomings; Identifying Most Needed Changes
(23) Analysis and Critique of Project Succeed	(10) Relevance	(17) Surveying National Resources Related to Overcoming Shortcomings
(26) Approaches to Change as an "Outsider"	(11) Educating Educators	(18) Analyzing Local Resources and Constraints; Selecting the LCP; Specifying Design and Implementation Requirements
(27) Change in Urban School Systems	(29) Improving School/Community Relations	(19) Workshop on Communication Within Task-Oriented Groups
	(30) Improving Interpersonal/Intergroup Relations	(21) Case Studies of Two LCPs
		(22) Task Force Examination of Types of LCPs
		(23) Analysis and Critique of Project Succeed
		(24) Evaluation of the LCP Task Flow
		(28) Communication Exercises: Leadership and Flexibility
		(29) Improving School/Community Relations
		(30) Improving Interpersonal/Intergroup Relations

the extent to which the later units are listed in more than one area.
Paralleling this movement is a progression in the substance of the units
from abstract or general information to activities directly related to
actual change programs.

During the first (three-week) phase, the material was presented in
structured units with pre-determined objectives, instructional materials
and exercises for the demonstration of competence. Core materials in
each area of instruction were presented. In the last days of this session,
each participant developed a proposal for an individual project which he
was to initiate during the eight-week interim. Through these projects the
participants could test the validity of the theoretical material presented
and identify additional training needs.

During the second phase, weeks 4 and 5, there was a major shift in
emphasis. The staff imposed less structure, with the participants taking
a correspondingly greater responsibility. The training focused on building
extensive guidelines for applying the Phase One skills and knowledge. This
was accomplished in four ways. First, each participant was a member of a
task force consisting of three to five participants and an instructor;
each task force generated a work flow specifying the purposes and procedures
specific to the design of change for one major type of change. To do this,
the task forces incorporated ideas drawn from the experience of each member
and from the following knowledge and skill areas:

1. Analysis of actual change programs, with the emphasis
   on strategy variables with which the Local Change
   Specialist must contend.

2. Presentation of working procedures by Local Change
   experts with varying roles and positions.

3. Specific skill units on evaluation, planning and leadership.

At the outset of these two weeks, the participants worked with the staff to identify the kinds of information they needed, within the limits described above, and to plan the instructional events to provide that information. All instruction was channeled into the task forces. When each task force completed its work, the members designed a unit to present their findings to the rest of the training group.

The structure and content of the final week was determined jointly by the staff and participants. The following four activities were selected and conducted:

1. The completion and summary presentations of the task forces.

2. Communication exercises to shape the critical Local Change Specialist interpersonal skills, especially flexibility within a group and the ability to assume leadership.

3. Instruction in approaches to improving school/community relations.

4. Instruction in approaches to improving interpersonal/ intergroup relations within a school.

Instruction was organized through the unit structure. Each day was divided into four 90-minute blocks, with units ranging in length from one to four blocks. Each unit used one or more of the following seven basic instructional techniques (figures in parentheses indicate number of times method was used.)

1. Lecture/discussion: oral presentation of staff-developed information, with questioning and discussion by students. (16)

2. Seminar: topical guided group discussion centering on specified questions, drawing on prescribed readings and/or professional experience of students. (6)

3. Syllabus readings: journal articles and research reports to provide information required to meet objectives. (13)

4. Simulation exercises: problem simulations for the development and practice of terminal skills. (13)

5. Individual projects: a piece of work from the student's job, to which he applies his acquired skills and knowledge under the guidance of the instructional staff. (5 training days)

6. Task forces: groups of students responsible for research and instruction on some aspect of local change design. (5 training days)

7. Visiting lecturers: expert in local change providing information that cannot be transmitted efficiently through one of the other techniques. (7)

Sequential progress through the program was not individualized; all students worked in the same units at the same time. There were no unit-by-unit pre-tests or placement tests. However, there was some flexibility in format. Students could choose to exempt the practice exercises developed for the unit and instead demonstrate mastery of the unit objectives within their individual projects. In some cases, students chose to exempt a unit as designed and worked in a tutorial with an instructor to meet the unit objectives. This decision was generally made because the student felt uncomfortable with the instructional technqiue used in that unit.

Responsibility for the presentation of the units was divided equally among the staff. For each unit, one staff member held primary responsibility for maintaining the activity flow and for assessing the students' competence. Mastery of the objectives during the program was determined jointly by student self-assessment and instructor evaluation of the exercises or project work. Final mastery was measured through a post-test.

Short-Term Program to Train Personnel from Community Organizations to Design and Conduct Local Change Programs

The participants chosen for this program held jobs in community action agencies. Their jobs gave them the opportunity (1) to work directly or

indirectly with school districts in the initiation of local educational
change programs or, (2 to interface school and community by initiating and
conducting education-related programs in both traditional and innovative
formats outside the existing educational institutions. The sponsoring
agencies continued to pay the salaries of the participants and the project
gave them a stipend to cover expenses incurred during the training period.

In an attempt to meet the participant's needs, the program content
was partly based on information gathered prior to the training. This infor-
mation included (1) job and task formation about the participants' community
agency positions, (2) their educational histories and current educational
status, (3) their work histories and competencies involved in jobs held,
(4) their knowledge of school systems, school/community relations, and
(5) their current experiences in working with community groups re school
programs.

The program was scheduled in three phases of three, two, and one weeks
with the participants spending five six-hour days on site each week. These
training phases were separated by two one-month intervals. The intervals
minimized interruptions in the participants' jobs, allowed the participants
to apply new skills to their work during interims, and allowed the program
staff to take participants' input into consideration in designing or revising
instructional units for the next phases.

The units presented during the first (three-week) phase were designed
to help the participants develop competence in (1) analyzing and describing
the organization of an educational system in a specific selected community,
(2) comprehending educational terminology, and (3) developing and applying
interpersonal skills. The second (two-week) phase was designed to help

participants develop competence in (1) comprehending the procedures (task flow) for designing a program of local change, (2) developing and applying needs analysis skills, and (3) identifying resources for solving educational problems. After the participants identified systems which they perceived as needing change, they were given a model for the design, implementation and evaluation of change programs. They then applied skills from their first three weeks of training as they began to design change program. They analyzed the system's organization, function and language, performed constraint/support analysis of the system, and demonstrated interpersonal skills needed to initiate change. With the new skills acquired in the second segment of training, the participants began to design job-related change programs. In the final (one-week) phase, participants applied their gained skills and knowledge by designing a change program that would be implemented and evaluated by them with instructional staff assistance. Table II indicates the nature and extent of coverage provided in the training program.

Instruction was organized through the unit structure. Each day was divided into four 90-minute blocks, with units ranging in length from one to four blocks. Each unit used one or more of the following seven basic instructional techniques (figures in parentheses indicate number of times method was used).

1. Readings (30)

2. Lecture/discussion with staff (32)

3. Visiting lecturers (6)

4. Worksheets or checklists (42)

5. School visitation (1)

TABLE II

PROGRAM COVERAGE BY UNITS
(Unit Number in Parentheses)

Context of Educational Change	Goals of Educational Change	Procedures for the Design of Change
(2) School Organization and Structure	(4A) Individualizing Instruction	(9) Local Change Task Flow
(3) Educational Reform (Overview)	(5) Mastery	(10) Communication Workshop
(4B) Examples of Individualization	(14) Relevance	(12) Establishing a Working Relationship with LCP School System
(6) Community Involvement in Education Since 1954	(16) Educating Educators	(13) Conference Format
(7) Roles and Positions of a Local Change Specialist	(22) Self-Directed Learning	(15) Determining the School System's Aims in Area of Concern and Assessing Their Present Level of Accomplishment
(23) Change Theory Seminar	(24) Ideas and Inquiry	(18) Analyzing Causes of Short-comings in the Area of Concern and Identifying Most Needed Changes
(26) Schools in the Urban Community		(19) Surveying National Resources Related to Overcoming Short-comings in Area of Concern
(28) Visitation to Frick School		(20) Analyzing Local Resources and Constraints, Selecting the LCP, and Specifying Requirements for the LCP and its Implementation
(29) Black Language Styles		(33) Task Flow Employed in Change Programs for Interpersonal/Intergroup Relations
(37) Kinds of School Systems		(34) Task Flow Employed in Curriculum Change Programs
(38) Guidance and Counseling in the School Program		(35) Task Flow Employed in Change Programs for Organization for Instruction
(39) Educational Technology		(36) Evaluation Theory and Methods Employed in Designing LCPs
(40) Psychological Effects of Instruction on the Learner		(41) Group Process and Role-Playing
(44) University-Community Education Project and its Effect		(43) Strategies for Change
(47) Rationale for Parent Involvement		

TABLE II (Continued)

Context of Educational Change	Goals of Educational Change	Procedures for the Design of Change
		(48) Organizing Parent Groups
		(49) Designing Communication Programs
		(50) Group Process Skills
		(51) Leadership Training

6. Film or videotape (3)

7. Individual conferences (14)

Sequential progress through the program was not individualized; all students worked in the same units at the same time. There were no unit-by-unit pre-tests or placement tests. However, there was some flexibility in format. Students could choose to exempt the practice exercises developed for the unit and instead demonstrate mastery of the unit objectives within their individual projects. In some cases, students chose to exempt a unit as designed and worked in a tutorial with an instructor to meet the unit objectives. This decision was generally made because the student felt uncomfortable with the instructional technqiue used in that unit.

Responsibility for the presentation of the units was divided equally among the staff. For each unit, one staff member held primary responsibility for maintaining the activity flow and for assessing the student's competence. Mastery of the objectives during the program was determined jointly by student self-assessment and instructor evaluation of the exercises or project work.

Long-Term Program to Train Personnel to Design and Conduct Local Change Programs

This doctoral program in the design and conduct of local change programs provides systematic training for persons who will hold key positions of leadership in the design and conduct of innovative programs in schools. Many such positions are in school systems where providing leadership for change is a responsibility of staff members holding jobs as assistant superintendent in charge of instruction, curriculum coordinator, building principal or assistant principal, or director of an innovative project. Leadership in local innovative programs also is a function of specialists in state education

education departments, educational R&D agencies, private educational consult-
ing firms, and community action organizations.

This training program is designed to prepare the student with profes-
sional bases for taking leadership in any sort of innovative program a school
system or school undertakes whether in curriculum, organization for instruc-
tion, staff training, school-community relations, etc. Special emphases in
the training offered relate to meeting the learning needs of members of
minority groups. Emphasis is placed also on training to foster changes that
employ instructional approaches and media that increase the individualization
of instruction. Heathers (1972) and Simonds and St. Lawrence (1972) provide
theoretical and methodological bases for the design of the program.

The program involves three years of work leading to the doctorate. The
work of the first year lays a foundation through a sequence of units that
are studied through reading, classroom discussions, simulation exercises,
and practicums in schools. During the first year, students divide their time
and credits about equally between required or elective university courses
and the units developed especially for the training program. The second year
involves a full-time internship working on innovative programs in an educa-
tional R&D agency or a school system. The third year combines further intern-
ship experiences with the conduct of a major project in instructional change
that satisfies the requirements of a doctoral dissertation. Regular seminars
and individual conferences with project staff members will be conducted
during the latter years of the program. Some students who enrolled in Program
4 with appropriate prior coursework and experience in schools will be able
to satisfy requirements for the doctorate in two years by eliminating the

"second year" of the program. For credit and degree-granting purposes, the program is conducted within the Department of Curriculum and Supervision of the School of Education at the University of Pittsburgh.

The work of the first year, terminating in August 1972, is organized in terms of instructional units. Each unit is presented to the student in a form that places emphasis cn student self-direction. Each unit also is being built to provide for an individualized approach to instruction. Figure I illustrates the scope and sequence of topics extending over the three terms in the 1971-72 academic year.

The students were introduced to the program by first analyzing the role of local change specialist and the process of change in schools as seen through case studies. A basis for analysis of the school system and its community context was then provided, and the students were familiarized with the principal themes in current educational reform and innovation. This work was covered through written units and in training seminars which met twice a week. Complementing the special training experiences, each student took about six units of university coursework outside the program. During the Winter and Spring Trimesters the students are spending half of their time engaged in practicums in school settings and the other half of their time in classes and seminars.

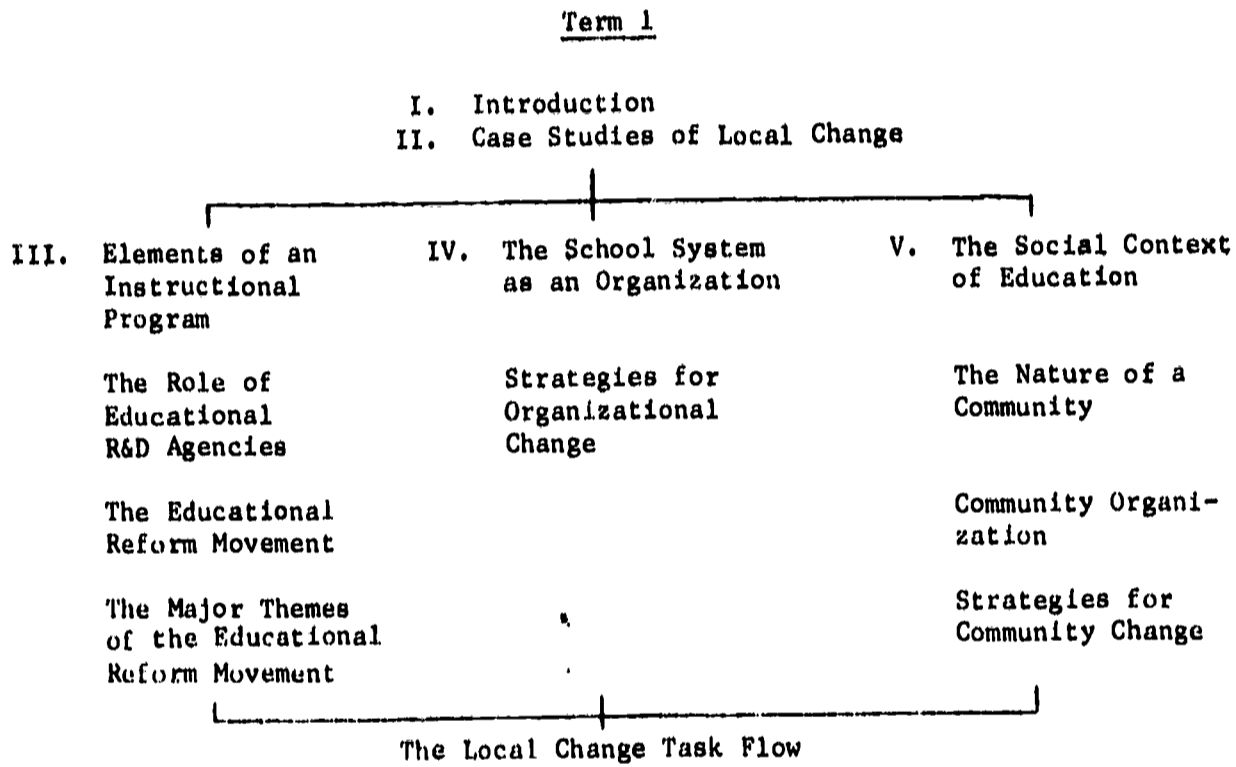The practicums build on the knowledge base provided in the Fall Trimester and provide actual practical field experience in innovative programs in schools. The practicums are being conducted under the auspices of Project TREND, a federally-funded project in the Pittsburgh Public Schools.

Each student selects an innovative program and an adopting school; the programs selected are Primary Education Project (PEP), PLAN, Free Learning

FIGURE 1

PROGRAM 4, DESIGN OF LOCAL CHANGE PROGRAMS: LONG TERM

Overview, 1971-72

<u>Term 1</u>

I.   Introduction
II. Case Studies of Local Change

III. Elements of an Instructional Program	IV. The School System as an Organization	V. The Social Context of Education
The Role of Educational R&D Agencies	Strategies for Organizational Change	The Nature of a Community
The Educational Reform Movement		Community Organization
The Major Themes of the Educational Reform Movement		Strategies for Community Change

The Local Change Task Flow

<u>Term 2</u>

Application

I.   Interpersonal Skills

II. Local Change Task Flow consideration of each task

III. Use of the Task Flow with simulation problems

<u>Term 3</u>

I.   Evaluation

II. Project Management

III. Leadership

IV. Diffusion and the training of others to use the Task Flow

Environment (FRELE), and READ (using Sullivan reading materials.) The student's first task is to prepare a detailed outline of the features of the program as designed by its originators. Next, he establishes a working relationship with program leaders in the school selected and obtains detailed information on the design of the school's innovative program and their plans for implementing it. The heart of the practicum is systematic observation of instruction in the new program in selected classrooms and interviews with staff members on the actual processes of implementation. At the end of their practicums, the students will write individual reports, then prepare a group report comparing the programs studied and the processes of implementing them in the several schools.

The formal training units of the Winter Trimester relate to the needs of the practicum: strategies for role negotiation in schools, analysis of innovative program design, observation techniques, assessing outcomes of innovative programs, and diffusion of educational innovations. The Spring Trimester will cover needs analysis, support/constraint analysis, design of change programs, curriculum development background, research design, project management, and report writing. Training sessions are conducted through both group seminars and one-to-one meetings of individual students with program staff. The student's university course load remains approximately the same as the first trimester.

The design of the program has been modified in some respects over the course of the year along lines suggested by the students in counselling discussions and, more formally, through a collective memorandum of suggestions

submitted by the students at the end of the Fall trimester. Changes which

have been adopted include:

1. Time spent in whole group seminars has been reduced and individual
    counselling of students with staff has been increased.

2. City rather than suburban schools were chosen for the practicum
    settings, resulting in more realistic school situations.

3. Provisions for pre- and post-testing with each unit have been
    modified; some units have both pre- and post-tests and there is a
    summary post-test at the end of each trimester. However, in cases
    where the unit material is likely to be unfamiliar there is no pre-
    test, and post-testing is often through individual checking out
    with staff or through student demonstration of the skill in practicum
    activities or written reports.

4. The choice of university courses outside the seminar by the student
    may include education-related courses in other fields, usually
    dependent on whether the student's academic background already
    includes a master's degree in education.

With each unit, instruction involves individual or sub-group study of

unit materials, classroom discussion, and individual conferences with Project

staff members. Generally, two half-day class sessions were held each week

in the Fall term and one in the Winter term. Each student has an hour-long

individual conference with a Project staff member to assess progress, to

receive needed tutoring, and to plan individual training activities.

Table III lists the units that were taught during the Fall term and

the methods of instruction that were used for each unit. In the Winter

Trimester the emphasis changes from a reading/seminar discussion format

to less frequent group meetings, regularly scheduled one-to-one sessions

between students and staff, and extensive time spent in the practicum setting.

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TABLE III

METHODS OF INSTRUCTION--FALL TRIMESTER UNITS

	Readings, Case Studies, or Study Guides	Staff Lect., Discuss., or Ques/Ans Sess.	Guest Lect., Discuss., or Ques/Ans Sess.	Exercises, Worksheets, or Checklists	School Visit	Film or Slide
1. Introduction to Program	X	X				
2. Case Studies of Change Programs	X		X	X		
3. Components of an Instructional System	X			X		
4. School System as Organization	X	X				
5. Community Context of Education	X	X	X	X		
6. Individualization, Mastery, Self-Direction	X	X	X	X		X
7. Ideas and Inquiry	X	X	X	X	X	X
8. Relevance	X	X	X	X	X	
9. Personal/Social Development	X	X	X	X	X	
10. Educating Educators	X	X		X	X	
11. The Educational Reform Movement	X	X		X		

Sequential progress through the program has not been individualized; all students work in the same units at the same time. For each unit one staff member holds primary responsibility for maintaining the activity flow and for assessing the student's competence. Then, individual conferences are held between students and staff members to help meet individual needs related to the unit. Mastery of unit objectives is determined jointly by student self-assessment and instructor evaluation. Final mastery is measured by a post-test at the end of a term.

Summary

The content of the three programs to train local change specialists is consistent with the theoretical and methodological bases for designing local educational change programs as described by Simonds and St. Lawrence (1972). The developed units reflect a heavy reliance on readings and lecture/discussion sessions. Individualization and relevance have been attained through the use of individual conferences, job-related projects, and practicum experiences. The weaknesses of long-term university-based programs (Simonds, 1970) have been partially overcome by making students productive <u>before</u> they finish their formal instructional program and by recruiting students with some professional experience in education. The employers who were financially supporting the participants in the short-term programs were assured of an immediate pay-off if they allowed their "employee-trainees" to implement their program-developed proposals on the job.

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