DOCUMENT RESUME

ED 222 486 SP 021 272

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TITLE Instructional Improvement in Maryland: A Study of Research in Practice.
INSTITUTION Research for Better Schools, Inc., Philadelphia, Pa.
SPONS AGENCY Maryland State Dept. of Education, Baltimore.; National Inst. of Education (ED), Washington, DC.
PUB DATE Oct 82
NOTE 346p.

EDRS PRICE MF01/PC14 Plus Postage.
DESCRIPTORS Action Research; Change Strategies; Classroom Techniques; *Educational Improvement; *Educational Innovation; Elementary Secondary Education; Learning Processes; Mastery Learning; Peer Teaching; Program Evaluation; *Program Implementation; *Research Utilization; School Effectiveness; *Teacher Effectiveness; Time on Task; *Training Methods
IDENTIFIERS Maryland; School Improvement Through Instructional Process

ABSTRACT

In 1980, the Maryland State Education Agency initiated a statewide effort, School Improvement Through Instructional Process (SITIP), to put into practice the results of research on classroom management and school effectiveness. SITIP was intended to provide training and technical support to all local education agencies (LEA's) during the adoption and implementation of innovative instructional processes. This report on the SITIP program contains eight chapters, the first of which is an introduction to the program. Chapter 2 of this report describes the stages and purposes of SITIP along with the topics, conferences, and institute conducted. Four topics were chosen for consideration in these meetings: (1) mastery learning; (2) student team learning; (3) management and use of instructional time; (4) and processes for instructional improvement. Chapter 3 summarizes an overview of an independent evaluation of the SITIP program. Included in the evaluation are questions addressed, measures and methods of data collection, data sources, data analysis, and reporting procedures. Chapter 4 contains a discussion of the three kinds of training events organized by the SITIP program: awareness conferences, summer institutes, and follow-up sessions. Each type of training event is described, and data are provided indicating attendance patterns and participant concerns and reactions. In the fifth chapter, a description is given of plans developed by participating LEA's for implementation of innovations and the technical assistance needs. Chapter 6 describes local implementation efforts concerning the four central conferences and institutes topics. The seventh chapter reports on technical assistance provided by the Maryland State Department of Education in support of local implementation of the four SITIP topics. The final chapter reviews SITIP activity areas and synthesizes major findings from the program. This report contains 83 tables presenting information on the SITIP program. (JD)

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INSTRUCTIONAL IMPROVEMENT IN MARYLAND: A STUDY OF RESEARCH IN PRACTICE

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October 1982

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The work on which this publication is based was funded in part by the Maryland State Department of Education and in part by the National Institute of Education. The opinions expressed do not necessarily reflect the position or policy of either organization, and no official endorsement should be inferred.

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I. INTRODUCTION

During the last few years, many state education agencies (SEAs) and local education agencies (LEAs) have initiated efforts to bring about school improvement by putting into practice the results of research on classroom management and school effectiveness. While almost all of these efforts draw on the same knowledge base (e.g., the work of Bloom, Brookover, Medley, Soar, and Edmonds, studies such as the Beginning Teachers Evaluation Study, or the research of Stallings, Evertson, Rutter, and others) each program or project is different. For instance, some use criteria identified by researchers as standards for judging programs or schools, and others develop resource materials or conduct training programs. At the same time, other SEAs or divisions within an SEA, familiar with the Research and Development Utilization Projects (such as those implemented in Georgia and Florida) and with the research on knowledge utilization and planned change (e.g., CBAM from the University of Texas, the work of Louis, et al., or the RAND study) engage in efforts to bring about planned change by developing various systems and strategies. Rarely are both knowledge bases brought together.

In Maryland, the SEA initiated a statewide effort -- School Improvement Through Instructional process (SITIP) -- in 1980 designed to put into practice research on planned change plus research-based models of instructional improvement. The design incorporated an action research approach in which "third party evaluators" provided fast turn-around reports on critical events so that improvements could be made when appropriate.

This report covers the first two years of SITIP. It combines and summarizes many "interim" reports submitted to SEA staff or distributed to local practitioners. It is designed to describe the activities of the various role groups involved (teachers, school-based administrators, central office staff, and SEA staff) and the relative success of those activities.

Following a brief overview of SITIP, the following areas are discussed: evaluation, training, planning, implementation, and technical assistance. The final chapter presents a summary and conclusions. The focus of attention is implementation: although SITIP is designed to impact student achievement such data will not be collected until the second year of implementation. For 1981 and 1982 (the period of this study) the process is examined and attempts made to determine interactive influence.

II. OVERVIEW OF SITIP

This chapter briefly describes the program evaluated in this report, summarizing the stages and the substance, and reviewing the purposes served from the point of view of the Maryland State Department of Education (MSDE). In the fall of 1980, MSDE initiated a voluntary school improvement program. SITIP, School Improvement Through Instructional Process, was intended to provide training and technical assistance support to LEAs in their adoption and implementation of innovative school improvement instructional processes. The six discrete stages in the SITIP program are listed in Table 1 and may be described as follows: (1) MSDE introduction and orientation of the SITIP program to the LEAs, (2) conduct of awareness sessions and development of local adoption and implementation proposals, (3) conduct of planning sessions, (4) conduct of summer institutes, (5) conduct of follow-up sessions and local implementation, and (6) dissemination within each LEA.

SITIP Stages

During the first stage, the MSDE introduced all LEAs within the state to the SITIP program by correspondence and discussion between senior MSDE and LEA staff. This introduction provided LEAs with a rationale for the program, an overview of the objectives and activities of the program, and their responsibilities for participation in the program. All LEAs were encouraged to participate in the SITIP program. Each LEA was asked to make up a cross-hierarchical team of participants.

The second stage of the program consisted of a series of four one-day awareness conferences which are described in Table 2. Each awareness

Table 1

Schedule of Events

Event(s)	Date(s)
Stage One	
1. LEA invitations distributed	October 1980
2. LEA commitments received	October 1980
3. Background conference materials provided to enrollees by Project LIFE, Division of Library Development and Services	November 1980
Stage Two	
4. Overview/awareness conferences held on four effective instructional approaches/strategies	December 1980 through February 1981
5. LEA proposals developed for a special MPDA grant program	April-May 1981
6. LEA participants enrolled for MPDA summer training institutes on effective instructional approaches/strategies	April-May 1981
7. MPDA special grants awarded	May 1981
Stage Three	
8. Planning sessions held for summer institute participants	May 1981
Stage Four	
9. Summer institutes operated by MPDA	June-July 1981
Stage Five	
10. Follow-up sessions to summer institutes held	September 1981 - May 1982
11. LEA implementation of local project begun (local training sessions held; instructional approaches/strategies initiated)	November 1981
Stage Six	
12. LEA expansion/dissemination	Summer 1982

Table 2

SITIP Topics and Conference and Institute Schedules*

#1 Mastery Learning — Conference: December 10, 1980; Institute: June 22-24, 1981

This teaching-learning concept offers a specific view of learning and the learner. The mastery learning concept says that if instruction and time-on-task are adapted to individual student needs, most learners can reach similar achievement levels. The concept emphasizes achievement at a higher level of cognitive ability for students through an emphasis on instruction, instructional materials, and pre- and post-testing. Concept originator: Dr. Benjamin Bloom, University of Chicago.

#2 Student Team Learning — Conference: January 7, 1981; Institute: July 6-8, 1981

This instructional concept is based on students' achieving in small, carefully structured learning teams. Student team learning emphasizes direct instruction from the teacher and the use of student teams. Student team activities include games, tournaments, and team tasks. This concept also emphasizes time-on-task, teaching by objectives, and early and continued feedback to students. Concept originator: Dr. Robert Slavin, Johns Hopkins University.

#3 Active Teaching — Conference: January 21, 1981; Institute: July 13-15, 1981

Active teaching is a focused education concept intended to help teachers in managing the use of instruction time. Active teaching establishes specific student objectives and develops evaluation criteria for assessing mastery. Active teaching also emphasizes time-on-task and monitors the nature and frequency of feedback from the teacher. Concept originator: Dr. Thomas Good, University of Missouri.

#4 Teaching Variables — Conference: February 4, 1981; Institute: July 6-8, 1981

This instructional program is designed to explore processes for instructional improvement which are based on recent analysis of research on school effectiveness. The program emphasizes time-on-task, criterion-based instruction, student success rate, and the quality of instruction. The program stresses diagnostic-prescriptive teaching. Concept originator: Dr. David Helms, Research for Better Schools, Inc.

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*As distributed to LEAs by MSDE in the fall of 1980. More complete descriptions are presented in the chapter on program implementation.

conference addressed one of the four selected school improvement instructional processes (i.e., Mastery Learning, Student Team Learning, Active Teaching, and Teaching Variables). The awareness conferences were structured to provide LEA representatives with a general orientation and overview to each of the four processes. Following the completion of the awareness conferences, LEAs were asked to prepare non-competitive proposals for the local adoption and implementation of any of the four school improvement instructional processes (or any combination).

One-day planning sessions and three-day summer institutes were conducted for each of the four instructional processes as the third and fourth stages of the SITIP program. Feedback was obtained from LEA representatives during the planning sessions on concerns or needs that should be covered during the following summer institutes. The summer institutes thus provided more intensive and structured training to LEAs for local adoption and implementation. LEAs were expected to attend planning sessions and summer institutes that addressed instructional processes they intended to implement.

The fifth stage of the SITIP program was initially designed to provide two one-day follow-up sessions in the fall and spring for the four instructional processes. However, the design was modified so that follow-up sessions became part of a broader technical assistance strategy. The strategy allowed for provision of additional training on local implementation issues and for on-site assistance from MSDE staff. In addition, LEAs were encouraged to share with each other curriculum and instructional strategies and practices related to their particular adoption experiences.

The last stage is dissemination, in which each local system expands activities from the initial site(s) (usually a single school) to others in the LEA.

SITIP Purposes

The SITIP program was designed to serve several purposes from the perspective of MSDE. First, it was to support Project Basic, the state's competency-based education program which requires schools to ensure alignment of curriculum and instruction with the declared competencies, and to provide appropriate assistance to students in ninth grade or beyond who fail the state competency tests. Instructional strategies, programs, or processes selected by MSDE had to have a sound research base and/or be validated as effective, and should not be tied to a specific curriculum or grade level. The four processes selected fit these criteria, three sharing a common knowledge base drawn from classroom effectiveness research, and the fourth based on research on social organization and student learning.

Another purpose of SITIP was to increase coordination within MSDE, and to incorporate MSDE efforts that had a record of success. In the first year (July 1980 to July 1981), staff of the Office of Project Basic (OPB) and the Office of Developmental Projects (ODP) worked together to design the program, select the processes, and build interest and commitment within MSDE. The initial design (awareness conference, participatory planning, training institutes, follow-up sessions) reflected the Maryland Professional Development Academy which is considered to be an exemplary staff development model. Other MSDE divisions became involved; for instance, library/media services established files relating to the instructional processes and

provided the advance reading materials mailed to conference participants. Technical assistants were drawn from the Divisions of Instruction, Library/Media Services, Instructional Television, Compensatory, Urban and Supplementary Programs (Title I), Certification and Accreditation, and from the Office of Project Basic. (ODP was disbanded in mid 1981, with staff forming a new staff development branch in the Division of Certification and Instruction.) Coordination and leadership, initially shared by directors of ODP and OPB, was subsequently provided by the Assistant Deputy Superintendent (OPB Director) who also chairs the Instructional Coordinating Council of MSDE Division Directors. Thus, cross-division planning and communication were facilitated.

A third purpose was to design and implement a model of school improvement that would impact students, that would actually be implemented and institutionalized, and that was viable as a state-wide or large system model. To this end, careful attention was paid to relevant research -- results of recent studies and SITIP data as it became available. Studies such as the Research and Development Utilization (RDU) study conducted by Louis, et al. of Abt Associates, the RAND study of federal programs, and analyses of models of educational change and implementation suggested such strategies as cross-hierarchical involvement, participatory planning, administrative support but school-based need, etc. SITIP data identified participant concerns and readiness to implement, the need for technical assistance, and helped to define specific local needs and interests and suggest appropriate interventions. In all stages, MSDE staff involved in

SITIP believed firmly that research could and should be put into practice -- in the classroom and by local and state administrators involved in school improvement.

III. EVALUATION OVERVIEW

The MSDE contracted with Research for Better Schools, Inc. (RBS) to conduct an independent evaluation of the SITIP program. The study was designed to address two "levels:" (1) specific events or stages of activity, and (2) the overall SITIP program as a viable strategy for statewide school improvement. Also, MSDE required that findings be reported on an on-going basis so that data-based decisions could be made to bring about program improvements.

This chapter summarizes the questions addressed by the study, measures and methods of data collection, and data sources, and reviews data analysis and reporting procedures.

Questions Addressed

The study addresses two areas:

- the activities of the Maryland State Department of Education, including critical training events such as conferences as well as delivery of technical assistance
- the activities of local educators, including response to state initiatives, planning, and implementation.

Each of these two areas is divided further, and evaluation questions are posed:

- Training: What training is offered by MSDE to local educators? How do LEAs respond? How do participants respond? What participant concerns are apparent?
- Plans and Planning: What plans are developed by LEAs and to what purpose? What planning events are organized by MSDE and how do participants respond? Do plans change over time and if so, how and why?
- Local Implementation: What implementation activities do LEAs undertake and to what extent does reality reflect written plans? What roles, responsibilities, and relationships emerge and how do they relate to successful implementation? What is the intensity and impact of implementation? What participant concerns are apparent?

- Technical Assistance: What technical assistance is offered by MSDE to local school systems? How does MSDE organize, strengthen and improve the delivery of technical assistance? What impact is made on local implementation?

It is important to note that although the four processes implemented are instructional improvement strategies designed to increase student achievement in academic subjects, this study does not examine impact on students. This is because LEA plans are for two school years, beginning in the fall of 1981, and focus for the first year on getting the selected process(es) in place; impact on students is examined (in most cases) in the second year. Here, attention is on implementation -- its nature and extent and its successes and challenges.

The question areas addressed, measures and methods used, sources of data and frequency and time of data collection are summarized in Table 3. More detailed information follows.

Measures and Methods of Data Collection

Four general methods of data collection were used: observation, interviews, questionnaires, and document analysis.

Observation

With one exception, all formal training and planning events conducted by MSDE were observed.* In addition, observation was conducted of the monthly technical assistance meetings (November 1981 - June 1982), and twice each of schools in the eight LEAs selected as pilot sites for the study. In all cases, comprehensive notes were taken of activities observed

*The exception was the conference on Student Team Learning, January 7, 1981. Inclement weather prevented observer attendance.

Table 3

Overview of Data Collection (1980-82)

Question Areas	Measures/Methods	Source	Frequency/Time
1. Training offered by MSDE	- observations	conferences summer institutes follow-up sessions	4 (Dec. 1980 - Feb. 1981) 4 (June - July 1981) 6 (Dec. 1981 - May 1982)
	- questionnaires	participants of all training events	14 (Dec. 1980 - May 1982)
	- stages of concern questionnaire	participants of conferences and summer institutes	2 (Feb. 1981 & July 1981)
2. Local plans and planning	- document analysis	local plans/proposals	2 (May 1981 & Mar. 1982)
	- observation	state-led planning sessions	5 (Spring & Fall 1981)
	- questionnaire	participants of planning sessions	4 (Spring 1981)
3. Local implementation	- document analysis	public plans, reports	On-going
	- observations - follow-up feedback form	participants of follow-up sessions	6 (1 or 2 per topic as scheduled)
	- observations - interviews	staff of pilot sites	16 (2 per pilot site as scheduled)
	- observations - interviews	MSDE TA staff monthly meetings	8 (1 per month)
	- phone interviews	LEA key contacts	20 (Feb. - Mar. 1982)
	- stages of concern questionnaire - general survey	all participants (455)	1 (May 1982)
4. TA offered by MSDE	- document analysis	MSDE TA staff logs	8 (1 per month)
	- observations - follow-up feedback form	follow-up session participants	6 (1 or 2 per topic as scheduled)
	- observations - interviews	MSDE TA staff monthly meetings	8 (1 per month)
	- phone interviews	LEA key contacts	20 (Feb. - Mar. 1982)
	- general survey	all participants	1 (May 1982)

objectively describing what happened and indicating time elapsed. Summaries were developed. Where comparisons were made attention focused on differences between what actually happened and what was originally planned. In general, observations were used to document implementation.

Interviews

Structured, semi-structured, and open-ended interviews were conducted with MSDE technical assistants and school and central office staff at the pilot sites. In addition, the 19 LEA project directors were interviewed once by phone early in 1982. All interviews were conducted between November 1981 and July 1982 and covered a range of areas and issues, some descriptive (e.g., number of teachers implementing a given process), some judgmental (e.g., quality of support provided by a given group), some analytical (e.g., reasons for program changes made), and some predictive (e.g., future activities -- reactive or proactive -- or anticipated needs).

Questionnaires

Six questionnaires were used: 1) Stages of Concern Questionnaire, 2) Conference Evaluation Form, 3) Institute Evaluation Form, 4) Follow-Up Feedback Form, 5) Technical Assistance Survey, and 6) General Survey. Each is described below.

Stages of Concern. The Stages of Concern (SoC) questionnaire was developed at the Research and Development (R&D) Center for Teacher Education, Austin, Texas, as one of the measures used in the Concerns Based Adoption Model (CBAM). The questionnaire focuses on a specific innovation. Respondents describe their concerns related to that innovation. (Table 4 presents the stages of concern.) The "stages" are developmental. That is,

Table 4

Stages of Concern About the Innovation

0 AWARENESS: Little concern about or involvement with the innovation is indicated.

1 INFORMATIONAL: A general awareness of the innovation and interest in learning more detail about it is indicated. The person seems to be unworried about himself/herself in relation to the innovation. She/he is interested in substantive aspects of the innovation in a self-less manner such as general characteristics, effects, and requirements for use.

2 PERSONAL: Individual is uncertain about the demands of the innovation, his/her inadequacy to meet those demands, and his/her role with the innovation. This includes analysis of his/her role in relation to the reward structure of the organization, decision making and consideration of potential conflicts with existing structures or personal commitment. Financial or status implications of the program for self and colleagues may also be reflected.

3 MANAGEMENT: Attention is focused on the processes and tasks of using the innovation and the best use of information and resources. Issues related to efficiency, organizing, managing, scheduling, and time demands are utmost.

4 CONSEQUENCE: Attention focuses on impact of the innovation on students in his/her immediate sphere of influence. The focus is on relevance of the innovation for students, evaluation of student outcomes, including performance and competencies, and changes needed to increase student outcomes.

5 COLLABORATION: The focus is on coordination and cooperation with others regarding use of the innovation.

6 REFOCUSING: The focus is on exploration of more universal benefits from the innovation, including the possibility of major changes or replacement with a more powerful alternative. Individual has definite ideas about alternatives to the proposed or existing form of the innovation.

Original concept from Hall, G. E., Wallace, R. C., Jr., & Dossett, W. A. A developmental conceptualization of the adoption process within educational institutions. Austin, Tex.: Research and Development Center for Teacher Education, The University of Texas, 1973.

when something new is introduced, first concerns focus on self (effects of the innovation on the individual); when these are resolved, concerns focus more on task and ultimately concerns about impact of the innovation on learners become more intense. "Arousal of concern seems to occur during affective experiences...resolution seems to occur through cognitive experiences...acquisition of information, practice..." (Fuller, 1969).* Experience indicates that there is one exception, in that the "collaboration" stage may be a higher concern even though the respondent has not progressed through the other stages. This may happen when the nature of the innovation requires (or strongly suggests) collaboration and/or when the respondent is looking for comparative data to assist decision-making about the innovation.

In interpreting responses, the goal is to develop a global picture, a gestalt of the concerns. High concerns indicate needs; low concerns indicate disinterest or lack of need. In any "picture" the two highest points are of primary interest since they indicate areas to be addressed by the next activity/training/intervention. The two lowest points may act as "warnings," indicating respondents' lack of readiness to deal with those concerns.

The SoC measure was used three times during the course of the SITIP program: at the end of the last awareness conference, at the end of the summer institutes, and at the end of the 1982 school year. On each of the three occasions respondents are asked to indicate their concerns about "using or thinking about using the SITIP instructional approaches."

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*Fuller, F. F. Concerns of teachers: A developmental conceptualization. American Educational Research Journal, March 1969, 6(2), 207-226.

Conference and Institute Evaluation Forms. After each conference and each institute, all participants were asked to complete brief evaluation forms, rating such features as adequacy of participant preparation; format, clarity, and utility of the activity; physical facilities; and readiness of participants for the next step of the SITIP program. In addition, participants indicated their organizational affiliation and role so that attendance patterns could be determined.

Follow-Up Feedback Forms. After each follow-up session, participants completed forms similar to those used for the conferences and institutes but with two additional dimensions: 1) quality of support and assistance received from various groups, and 2) future activities and needs.

Technical Assistance Survey. In November 1981, the eight MSDE staff assigned as technical assistants completed a survey documenting previous and predicted involvement and perceived capability for the role.

General Survey. In May 1982, 455* school and central office staff were asked to complete a general survey indicating: participation in specific SITIP activities, extent of classroom implementation, roles and responsibilities, use of time; classroom value of the selected process(es) and quality of assistance.

Document Analysis

Four kinds of materials were systematically reviewed: (1) articles about the four processes (used as advance reading for conference partici-

*Three hundred twenty potential respondents included all local educators directly involved in implementation in 18 LEAs. One hundred thirty-five potential respondents represented 33% of those directly involved in an LEA implementing the selected process in all elementary schools.

pants) and materials used by developers in training users at institutes and follow-up sessions; (2) materials developed by LEAs for inservice or classroom use; (3) plans developed by LEAs as proposals requesting funds (May 1981) and as descriptive summaries reflecting revised or refined ideas (September 1981); (4) logs maintained by MSDE technical assistants which recorded all SITIP-related activities (from telephone calls to follow-up sessions).

Data Sources

As indicated in Table 3 and in the above discussion, data sources included program materials, logs, observation of critical events, and responses to interviews and questionnaires. Table 3 indicates the frequency and time periods of data collection. Here, the respondent population is described.

Maryland's SITIP program was offered to all 24 local education agencies (LEAs) -- Baltimore City plus 23 counties. LEAs range in size from Kent (approximately 3,000 students in nine public schools) to Baltimore City (approximately 145,000 students in 210 public schools). Twenty LEAs chose to participate in SITIP, making an initial commitment to send cross-hierarchical teams to the four Awareness Conferences and to follow through with planning, further training, and implementation if one or more of the processes described related to a locally-identified need or priority.

In addition to the LEA representatives, MSDE staff, state and local board members, and staff of institutes of higher education attended the four awareness conferences, with an average of 250 participants at each conference, about half of whom completed conference evaluation forms.

Nineteen LEAs submitted proposals and subsequently implemented their plans. Each local team included (at least) a project director (usually central office staff), a school-based administrator, and two teachers. There were between 30 and 40 participants at each Summer Institute with over 50% of them being classroom teachers. A total of 127 SoC and evaluation forms were completed by institute participants.

Eight of the 19 LEAs were asked to cooperate as pilot sites for the purposes of this study. (See Table 5.) They were selected in November 1981, using the following criteria:

- topic selection -- ratio reflecting initial selection of the four process topics by LEAs, and including single and combinations of topics
- county size -- including large, medium, and small LEAs
- strategy -- including all implementation strategies, ratio reflecting initial LEA plans
- grade levels -- covering all grades, with various clusters.

All eight LEAs agreed to serve as pilot sites which meant that in addition to responding to questionnaires and the project director telephone interview, participants provided copies of locally developed materials, and hosted RBS observers for two on-site visits. When available, locally collected data and evaluation reports were also made available by pilot LEAs to RBS.

In the fall of 1981, local plans predicted that in 19 LEAs, at 58 schools, 626 teachers would have implemented SITIP topics by the end of the school year. By May 1982, 455 directly-involved implementers were identified and asked to respond to the general survey.* Three hundred twenty-nine respondents completed and returned the survey.

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*In one LEA, 150 surveys were distributed = one third of implementers.

Table 5

Pilot Sites for the SITIP Study

County	TOPICS STL	ML	AT	TV	County Size	Strategy	Grade
Prince George's	X				L	CB	4-6
Baltimore City		X			L	PD	10-12
Baltimore Co.	X +	X +		X	L	LS	3-7
Cecil			X +	X	M	LS	4, 7
Harford			X		M	DW	1-8
Frederic				X	S	LS	K-12
Somerset				X	S	LS	K-3
Worcester	X +	X			S	LS	K-5

L = large
M = medium
S = small

STL = student team learning
ML = mastery learning
AT = active teaching
TV = teaching variables

LS = single school
PD = pilot district-wide if successful in first school
CB = capacity-building
DW = district-wide

Information based on LEA plans, November 1981.

At the state level, information was provided by the eight MSDE staff assigned to provide technical assistance, and the assistant deputy superintendent who coordinated SITIP activities.

In summary, data were collected on all events organized by MSDE for LEAs, on the organization and delivery of technical assistance by MSDE staff, on implementation at a general level for all 19 participating LEAs, and on implementation in detail for the eight pilot LEAs.

Analysis and Reporting

Data were analyzed as soon after collection as possible. Summaries were prepared and reports made to the MSDE SITIP team, orally about once a month and in writing for formal training events and the analysis of initial LEA proposals. Turnaround time for written reports was usually seven to ten days. Also, an interim report covering the first four stages of SITIP was presented to MSDE in October 1981.

This system of on-going analysis and reporting allowed the MSDE team to make data-based decisions to plan interventions and make improvements in the program. These modifications are described in the appropriate context in subsequent sections of this report.

IV. TRAINING INITIATED BY MSDE

The SITIP program included three kinds of training events organized by MSDE:

- Awareness Conferences (4) conducted between December 1980 and February 1981, for up to 300 participants each, most of whom were local educators from 20 LEAs.
- Summer Institutes (4) conducted in June and July 1981, each for between 30 and 45 participants who had decided to implement the specific process for which training was provided.
- Follow-up Sessions (6) conducted between December 1981 and May 1982, each for up to 45 participants who were implementing the specific process under discussion.

This chapter is divided into five sections, one for each of the kinds of training events, plus this introduction and a summary. For each of the three kinds of training, the events are described and data provided indicating attendance patterns and participant concerns and reactions. The summary reviews similarities and differences across events.

Awareness Conferences

The Maryland State Department of Education (MSDE) sponsored a series of four invitational awareness conferences during the winter of 1980-81 as the second stage of the SITIP program. (During the first stage, school districts were formally invited to send teams of policy-level administrators and key instruction personnel to these awareness conferences by the State Superintendent of Schools; the SITIP program was also discussed at the routinely scheduled superintendents' meeting in late September. The school district superintendents were informed that the four awareness conferences

would consist of one-day overview programs about four innovative instructional improvement processes which had been tested and found to be effective. They were also provided at this time with details concerning the other parts of the SITIP program. Twenty LEAs agreed to send representatives to the conferences.

The evaluation of the awareness conferences was designed to address the five questions listed below:

- What happened -- substance and process -- at the conferences?
- Did local school districts meet the participant attendance requirements established by MSDE?
- How did the local school district participants evaluate the four individual SITIP conferences?
- What concerns did the local school district participants have related to the SITIP program?

The remainder of this section is organized into five subsections; four of which present findings related to each of the above evaluation questions. The fifth provides a brief summary of the findings.

Conference Presentations

The four awareness conferences were held at two-week intervals between December 4, 1980 and February 4, 1981, all held at the Convention Center in Baltimore, each lasting one day, and each planned for approximately 300 participants all of whom received a package of advance reading materials in November. The conferences were designed to familiarize participants with four research-based instructional processes. Presenters were asked to describe the processes so that local educators would understand them well enough to determine whether one or more of the processes related to a

locally perceived need and to develop a proposal for implementation. MSDE staff worked with presenters in designing agenda activities, and each presenter, or team of presenters, provided the substance of the conference. The four conferences, in order of presentation, were:

- Mastery Learning, presented by Benjamin Bloom of the University of Chicago
- Student Team Learning, presented by a team led by Robert Slavin from Johns Hopkins University
- Active Teaching, presented by Thomas Good, University of Missouri
- Teaching Variables, presented by a team led by David Helms from Research for Better Schools.

In each case, following an introduction by MSDE staff, a presentation was made. Small group sessions were conducted by MSDE staff or members of the presentation team to allow for further exploration of the topic and discussion by participants. When the total group reconvened, participant questions were addressed by the presenter(s).

LEA Participation in Awareness Conferences

The Awareness Conferences were designed for local educators and evaluated in that context. However, other groups were also invited to attend. Specifically, members of the State Board of Education, representatives of Institutes of Higher Education, and staff from several MSDE Divisions attended the conferences. Thus, for each conference, between 250 and 300 people attended the major presentation in the morning. While most local educators (about 50% of the participants) stayed for the rest of day, other groups did not, so that for small group and question-and-answer sessions, between 120 and 150 people were present, with about 66% of them being local educators.

Local schools systems were invited to send teams of policy-level administrators and key instruction personnel to attend each of the four awareness conferences. The rationale for inviting cross-hierarchical teams was that those likely to conduct planning and implementation should learn about the topics first hand. The recommended composition of teams included members of the following professional groups:

- three school-based staff members (a principal and two teachers from the same school)
- Local Education Agency board member
- three central office supervisors
- LEA assistant superintendent for instruction
- LEA superintendent

In order to determine compliance with the attendance requirements, attendance was recorded at each of the four conferences. Those who picked up their identification badges at the registration desk were considered present; unclaimed badges were assumed to belong to absent participants.

Table 6 indicates that three out of twenty school districts met all requirements for attendance at the Mastery Learning conference (i.e., at least one person from each of the six professional groups was in attendance). For the Student Team Learning conference, two school districts met all requirements for attendance; for the Active Teaching conference, no counties met all requirements; and for the Teaching Variables conference, two districts met all attendance requirements.

Table 6

LEA Participant Groups Attending SITIP Conferences

School District	Mastery Learning	Student Team Learning	Active Teaching	Teaching Variables
Allegany County	All	1,2, 4	1,2,3,4, 6	1,2,3,4, 6
Anne Arundel County	1,2, 4,5	1,2, 5	1,2, 4,5	1,2
Baltimore City	1,2, 4,5	1,2, 4,5	1,2, 5	1,2, 4,5
Baltimore County	2,3,4,5	2,3,4,5	2,3,4,5	2,3,4,5
Calvert County	1,2, 4,5,6	1,2, 4	1,2, 4,5	1,2, 4
Cecil County	2, 4,5	2, 4,5	2, 4,5	2, 4,5
Charles County	All	All	1,2,3,4,5	1,2,3,4,5
Frederick County	1,2,3,4,5	1,2, 4,5	1,2,3,4, 6	All
Garrett County	1	1	1,2	---
Harford County	1,2, 4,5,6	1,2, 4,5	1,2, 4,5,6	1,2, 4
Howard County	1,2, 4,	1,2, 4,5	1,2, 4	1, 4
Kent County	---	---	---	---
Montgomery County	2,3,4,5,6	2, 4,5	2, 4,5	2, 4,5,6
Prince George's County	4,5	4,5	4,5	4,5
Queen Anne's County	---	4	1,2, 4,5,6	1,2,3,4,5
St. Mary's County	1,2,3,4,5	1,2,3,4	1,2,3,4,5	1,2,3,4
Somerset County	1,2, 4,5,6	1,2, 4,5,6	1,2, 4,5,6	1,2, 4,5
Talbot County	---	---	---	---
Washington County	All	All	3	All
Worcester County	1,2, 4,5	1,2, 4,5	1,2, 4,5	1,2, 4,5

1 Teachers
2 Principals
3 LEA Board Members
4 Central Office Supervisors
5 LEA Assistant Superintendents
6 LEA Superintendents

Table 7

Composition of LEA Participant Groups at SITIP Conferences

Professional Type	Mastery Learning		Student Team Learning		Active Teaching		Teaching Variables		Total	
	N	%	N	%	N	%	N	%	N	%
Classroom Teachers	31	22.14	28	24.56	23	20.18	27	23.89	109	22.66
Principals	22	15.71	20	17.55	21	18.42	20	17.70	83	17.25
LEA Board Members	8	5.72	4	3.51	6	5.26	7	6.19	25	5.20
Central Office Supervisors	49	35.00	42	36.84	41	35.96	40	35.40	172	35.76
LEA Assistant Superintendents	22	15.71	17	14.91	18	15.79	15	13.28	72	14.97
LEA Superintendents	8	5.72	3	2.63	5	4.39	4	3.54	20	4.16
TOTAL	140		114		114		113		481	

An examination of Table 7 reveals a pattern of attendance among the six groups which is fairly consistent over each of the SITIP awareness conferences. Across all four conferences, the greatest percentages of participants was central office supervisors (35.76 percent) and classroom teachers (22 percent). Principals and LEA assistant superintendents represented 17.25 percent and 14.97 percent, respectively. LEA board members and LEA superintendents combined represented only 9.36 percent of those attending the conferences. These percentages are consistent with the recommendations made by MSDE for sending teams of administrators and key instruction personnel to the awareness conferences.

Participants' Evaluation of Awareness Conferences

Participants were asked to evaluate each of the four awareness conferences by providing ratings on a number of different dimensions related to the conferences. A standard evaluation form was completed at the end of each conference. The form was designed to rate the degree to which participants agreed or disagreed with a list of fourteen statements with dealt

with: preparation prior to the conference, purposes and objectives of the conference, effectiveness of the presenters, and readiness to prepare a proposal on a conference topic or attend an in-depth training institute.

All participants -- LEA, MSDE, IHE, and others -- were asked to complete evaluation forms. For each conference, between 120 and 150 forms were completed, with LEA participants making up about 66% of the respondents.

Ratings ranged from a high of 5.00 indicating "Strongly Agree" to a low of 1.00 indicating "Strongly Disagree." The mean SITIP participant ratings for each of the four conferences are presented in Table 8.

Mastery Learning. Mean ratings of participants attending the Mastery Learning conference ranged from a high of 4.36 to a low of 3.06. Generally, participants strongly agreed to having had sufficient preparation and having gained an understanding of the purposes and objectives prior to attending the conference. Ratings related to the effectiveness of the material presented at the conference suggested that the presentation of the conferences' objective were unclear. The level of the presentation was appropriate and there was a good balance between content presentation and group participation. Participants tended to be "unsure" of the overall effectiveness of the presenter. Ratings indicated that the presenter did not make good use of audiovisual materials and did not spend sufficient time interacting with the audience. Most people felt that the conference facilities were satisfactory. Mean ratings indicated that some participants were "unsure" about having gained a good understanding of Mastery Learning. The item receiving the lowest mean rating revealed that LEA participants did not feel confident in preparing a proposal related to the implementation

Table 8

Participant Ratings of Awareness Conferences

Item	Mastery Learning	Student Team Learning	Active Teaching	Teaching Variables
1. Prior to attending, I understood the purpose and objective of the conference.	4.08	4.53	4.18	4.12
2. I completed the suggested reading before attending the conference.	4.30	4.55	4.12	4.24
3. I consider the reading useful for the purpose and objectives of the conference.	4.36	4.56	3.95	3.87
4. The purposes and objectives of the conference were clearly presented throughout the program.	3.85	4.60	3.59	4.03
5. The content of the conference was presented at an appropriate level for the audience.	4.06	4.45	3.66	3.49
6. The content presentation and group participation were well balanced in the conduct of the conference.	4.01	4.53	2.69	3.57
7. The format of the conference was appropriate for the size of the audience.	4.07	4.55	3.55	4.06
8. The presenter(s) made appropriate use of audiovisual materials.	3.51	4.30	3.73	4.11
9. The conference presenter(s) communicated well with the audience.	4.02	4.46	3.86	3.70
10. There was sufficient time allowed for the audience to question and interact with the presenter(s).	3.26	4.40	3.94	3.76
11. The conference facilities were satisfactory.	4.23	4.10	3.96	4.12
12. I feel that I now have a good understanding of the concepts and practical applications of the conference topic.	3.74	4.50	3.72	3.99
13. *I feel that my school system could now prepare a proposal related to the conference topic for local implementation.	3.06	3.98	3.12	3.72
14. *I am now prepared to benefit from more in-depth training in order to apply the topic concepts in a practical setting.	3.81	4.29	3.27	3.60

Mean ratings may vary from a high of 5.00 (Strongly Agree) to a low of 1.00 (Strongly Disagree).

*IEA participants only

of Mastery Learning. Most LEA participants agreed that they would benefit from more in-depth training in Mastery Learning.

Student Team Learning. Mean ratings of Student Team Learning participants ranged from a high of 4.60 to a low of 3.98. Generally, participants' mean ratings were higher for this conference than for the other three conferences. Most participants considered themselves well-prepared prior to the conference, having understood the objectives, and having read the suggested material. The majority of participants strongly agreed that the objectives of the conference were clearly presented. Mean ratings indicated that most participants felt the level of the presentation was appropriate and a good balance existed between content presentation and group participation. Generally, participants felt that presenters made appropriate use of audiovisuals and communicated well with the audience. All participants agreed that they had obtained a good understanding of Student Team Learning. However, mean ratings revealed some uncertainty as to participants' confidence in being able to prepare a proposal on local implementation of the Student Team Learning strategy.

Active Teaching. Mean ratings of those participating in the Active Teaching conference ranged form 4.18 to 2.69. In general, ratings for this conference tended to be lower than ratings for the other three conferences. Overall, participants were well-prepared prior to the conference. The majority of participants had completed the suggested reading and considered it useful for the objectives of the conference. Some of the negative feedback concerning the conference dealt with the lack of clarity of the presentation. A number of participants expressed the concern that the

"level" of the presentation was not appropriate for the audience in that it seemed to relate more to theoretical then to practical issues. The majority of participants felt that there was insufficient balance between content presentation and group participation. Mean ratings revealed that participants considered the presenters to be effective, making appropriate use of audiovisual materials, communicating well with the audience, and encouraging questions from the audience. A number of LEA participants expressed concern over not being sufficiently prepared to write proposals related to implementation of an Active Teaching project. They also did not feel that they would benefit from more in-depth training at this time.

Teaching Variables. Participants' mean ratings of the Teaching Variables conference ranged from 4.24 to 3.49. Generally, participants considered themselves well-prepared prior to attending the conference. Though most participants rated the presentation as effective in terms of clarity, level, and balance, a number of people gave low ratings to the appropriateness of the level of the presentation as well as to the balance between group participation and content presentation. The format of the conference was considered appropriate for the size of the conference. Mean ratings for the presenter(s) of the Teaching Variables conference were generally above average indicating that the presenter(s) communicated well with the audience, made appropriate use of audiovisual materials, and allowed sufficient time to interact with the audience. Most participants felt reasonably well-prepared, having obtained a good understanding of the concepts and practical implications of Teaching Variables. A number of LEA participants expressed uncertainty as to their ability to prepare a proposal related to local implementation of the Teaching Variables concept.

Summary. Participants' ratings of the four awareness conferences were generally positive. The mean ratings on the fourteen items ranged from a low of 2.69, indicating a problem in the balance of the content presentation and group participation at the Active Teaching conference, to a high of 4.60 complementing the clarity with which the objectives of the Student Team Learning conference were presented. High ratings were consistently given to the item on completing suggested reading prior to attending the conference. One item receiving consistently low ratings across all four conferences revealed that participants did not feel prepared to write proposals related to the conference topics.

Of particular interest in the evaluation of the awareness conferences are the mean ratings on the items pertaining to overall understanding of the conference topic, and readiness to engage in a proposal-writing activity or attend an in-depth summer institute. Ratings for Item 12 (understanding of the conference topic) indicate that participants of the Student Team Learning conference felt that they had developed a good understanding of the presented concepts. In comparison, participants of the other three conferences expressed uncertainty of having gained a good understanding of their respective conference topics. Similarly, mean ratings on Item 13 revealed that participants of the Student Team Learning session were more confident of being able to write a proposal than were participants of the other three conferences to benefit from more in-depth training in this area.

The Student Team Learning conference was the most successful of the four as evidenced by the consistently high ratings on the items discussed above. It is apparent that the Student Team Learning presenters have developed a one-day presentation in which participants can acquire a good understanding of the instructional process, and the readiness to develop a proposal and benefit from additional in-depth training.

Concerns of SITIP Participants

Participants in the SITIP awareness conferences were asked to complete a modified form of the CBAM Stages of Concern Questionnaire (SoCQ)* at the end of the final awareness conference. The modified SoCQ case was administered to determine participant's status or thinking about SITIP at the end of the awareness conferences.

If the SITIP activities to this point were successful, predicted SoCQ responses would indicate a willingness to learn more (information concern), and an interest in working with others (collaboration). Participants likely to be involved directly with implementation might also be concerned with the demands made upon them by the program (personal). Participants least likely to be directly involved in implementation would score lowest** on management and consequences. This instrument thus provides a measure of the effectiveness of the conferences as well as suggestions as to areas or needs of participants that should be addressed by the next stage of the SITIP program.

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*See Table 4 for a description of the SoCQ.

**"High" or "low" scores are not good or bad, merely descriptive.

Respondent Sample. The SoCQ cases were returned by 133 SITIP participants. Table 9 summarizes the number of questionnaires returned by each of the major participant groups. The largest group of participants responding to the SoCQ was the LEA central staff members. This group included school districts superintendents, assistant superintendents, and other central office staff. The next largest group was MSDE staff who also attended the SITIP awareness conferences. School district teachers and building principals comprised the next largest groups. MSDE/LEA board members, higher education staff, and others were only minimally represented in the respondent sample.

Table 9

SoCQ Respondent Sample for SITIP Conferences

SITIP Participant Group	Number	Percent
LEA Central Staff	49	36.83
Principals	19	14.29
Teachers	25	18.80
MSDE Staff	29	21.80
MSDE/LEA Board Members	5	3.76
Higher Education	3	2.26
Other	3	2.26
TOTAL	133	100.00

Data are interpreted for the total group and then for each LEA role group and are displayed in Tables 10-13.

Total group: Respondents are interested in the SITIP topics and processes, wanting more general information. There is little real commitment for use of personal sense of involvement. Of greatest disinterest is potential impact. As a group, respondents are saying, "We will pay attention to more information. If you help us understand the overall SITIP process and (a specific) topic(s), we may become involved. So far, we are undecided."

Central office staff: (49 respondents -- same general picture as total group response.)

Principals The 19 principals responded similarly to the total group. Respondents have no sense of involvement, but are willing to receive more information. They are least concerned with consequences of implementation of SITIP. They are saying, "We will pay attention to more information. Right now we don't understand how SITIP is to be put into practice."

Teachers The 25 teacher respondents are interested in receiving more formation, particularly as to how they are to be involved in SITIP activities. They are concerned about their role -- the personal implications of involvement. They are not immediately interested in impact on students. They are saying, "What does this mean to us in real terms? We need to know more -- about the SITIP process and (specific) topic(s), and how implementation of this would influence our existing tasks and roles."

Table 10

Total Group SoCQ Responses
(Feburary 1981)

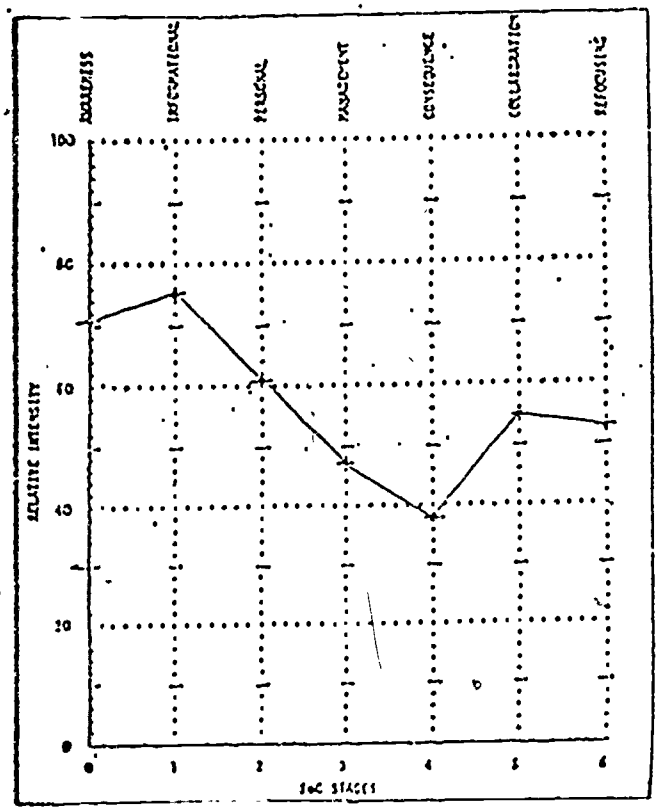


Table 11

Central Office Staff SoCQ Responses
(February 1981)

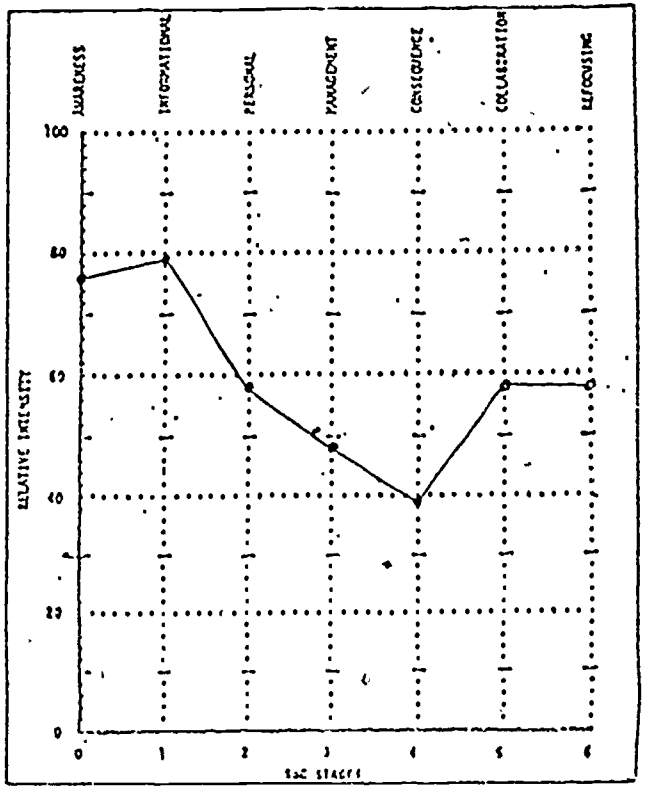


Table 12

Principals' SoCQ Responses
(Feburary 1981)

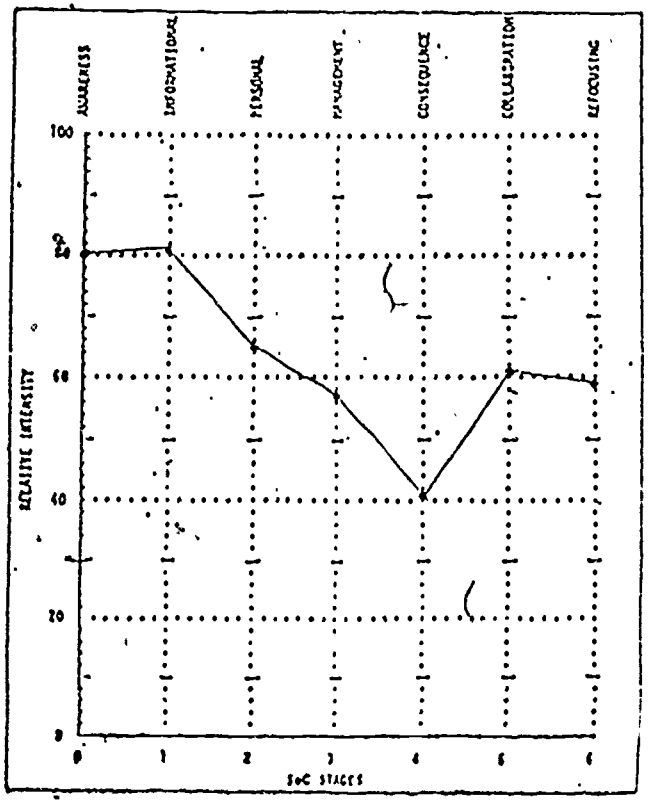
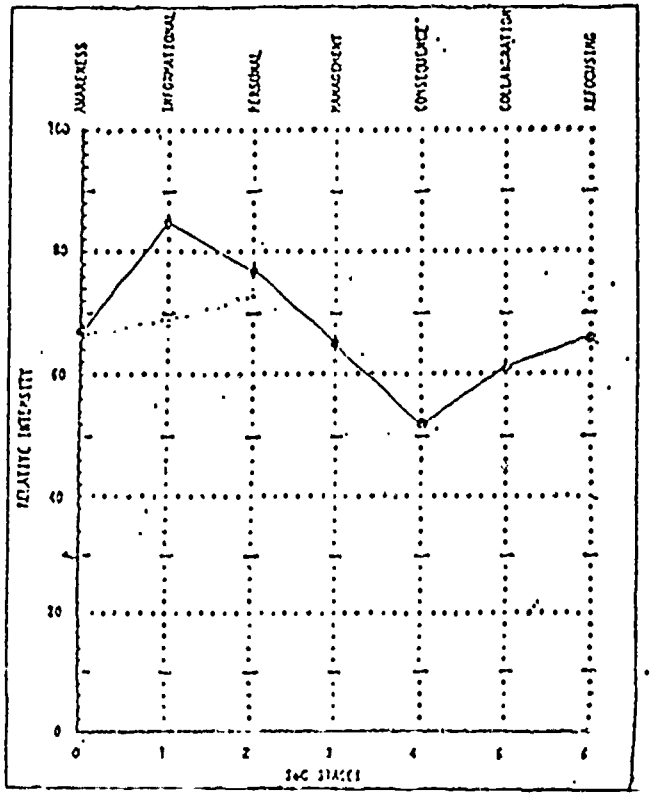


Table 13

Teachers' SoCQ Responses
(February 1981)



Of greatest interest to SITIP are the responses of teachers, principals, central office staff and MSDE staff -- listed in rank order of interest in SITIP implementation, with teachers being most ready to learn more about actual application of SITIP. (All teacher scores are above 50%, while only two of the MSDE scores are above 50%.) The relatively high "awareness" score (in comparison to scores for other stages) of three of the four groups in this set warns that respondents do not consider SITIP a high priority. Their willingness to attend to more information offers potential for "winning them over." With the next highest score for all groups being "personal", the implication is that information provided should relate to specific personal concerns of each group (e.g., responses to such questions as: what am I supposed to do? what will happen to my other responsibilities? if I get involved, how will I know when I am doing well, and will my immediate supervisor approve of my involvement?) The comparatively low "consequence" scores indicate that respondents are not ready to think about SITIP impact on students ("self" concerns take priority).

The results of the SoCQs revealed that the highest concerns of LEA participants indicated a need for more information about the substantive aspects of the four instructional improvement processes. The relatively high scores of LEA participants on awareness and personal scales provided additional support for the notion of a need for more detailed information, especially in terms of defining their roles in the adoption process. MSDE staff also scored high on the awareness and personal scales, suggesting a need for greater clarification of their role in the SITIP program. These results are evidence of participants' concerns about their roles in the

SITIP program and suggest that in-depth information on the role expectations of LEA personnel should be given. For implementation to occur beyond a "lip service compliance" level, commitment must be generated (especially among LEA staff, principals, and teachers). The next "round" of information sharing needs to address questions:

- If I (personally) become involved, what's in it for me?
- If a school or district becomes involved, who needs to do what?
- If we (specific groups) become involved, how will roles and responsibilities change?

Summer Institutes

During June and July of 1981, MSDE held summer institutes, one for each of the four instructional processes. Each institute consisted of an in-depth three-day program designed to prepare participants for implementation of the instructional process. The institutes were either led by the consultants who had originally conducted the awareness conferences or by similarly qualified individuals. In each case, one or two MSDE staff, who subsequently provided technical assistance on that topic to LEAs, attended the institute and helped to organize it.

The agendas of the summer institutes were to address the specific training needs which participants of the planning sessions had identified. In addition, the institutes were to provide districts with sufficient individual attention concerning the implementation of their SITIP projects.

The evaluation of the summer institutes was designed to answer the following questions:

- Did the local school districts meet the participation requirements established by MSDE?

- What was the nature of the agenda covered at each institute and how did it relate to the local school district participant needs?
- How did the local school district participants evaluate the institutes?
- What types of concerns did the local school district participants have related to the SITIP program?

The narrative which follows has been divided into five subsections. The first four subsections correspond to the evaluation questions referred to above. The remaining subsection presents an overall assessment of the effectiveness of the three-day training institutes.

LEA Participation in Summer Institutes

In June and July 1981, small teams of LEA personnel received detailed training in the adoption and implementation of one or more of the instructional processes.

The recommended composition of the participating LEA teams is presented below:

- central office instructional leader
- principal
- two teachers from the same school.

Attendance was recorded at each of the four summer institutes in order to determine the extent to which the counties had sent appropriate teams of LEA staff. Table 14 summarizes the attendance patterns of participants, by county, at each of the four summer institutes. The attendance figures indicate that districts complied to varying degrees with MSDE attendance recommendations.

Attendance of Recommended Participant Groups. Three of the seven counties (43 percent) sent the recommended members to the Mastery Learning

Table 14

Participant Groups Attending SITIP Summer Institutes

District	Mastery Learning	Student Team Learning	Active Teaching	Teaching Variables
Allegany County	1,2,4			
Anne Arundel County	1,2			
Baltimore City	1,2,4,5			
Baltimore County	1,2	1,2		1,2
Calvert County		1,2		1,4
Cecil County			1,2,4	4
Charles County		1,2		
Frederick County				1,2
Garrett County			1	2,4
Harford County			1,2,4	
Howard County	1,2			1,2,4
Kent County				1,2,4,5
Montgomery County		1, 4	1,2,4	1,2,4
Prince George's County	4	1, 4	4	
Queen Anne's County		1,2		
St. Mary's County			1,2,4	
Somerset County				1,2,4,5
Talbot County				
Washington County		1, 4		
Worcester County	1,2,4,5	1,2,4		

1. Teachers
2. Principals
3. LEA Board Members
4. Central Office Supervisors
5. LEA Assistant Superintendent
6. LEA Superintendents

institute. All but one of these districts sent teachers and principals. Central office staff were excluded in three of the groups. Two-thirds of the total group of institute participants were classroom teachers, the remaining third was almost evenly split between principals and central office staff.

Of the counties attending the Student Team Learning institute, only one of the eight teams (13 percent) met MSDE recommended composition. Although all districts included teachers in their teams, three excluded principals and four deleted central office staff in forming their teams. Approximately 75 percent of the total institute participants were classroom teachers, 14 percent principals, and 10 percent central office staff.

Attendance at the Active Teaching institute complied most highly with MSDE recommendations. Four out of the six districts (67 percent) sent the recommended set of members. In the two other districts, the principal was missing in both as well as either the teacher or central office staff. Classroom teachers accounted for 39 percent of the total institute participants, principals 35 percent, and central office staff 26 percent.

Four of the nine districts (44 percent) followed the prescribed team compositions for the Teaching Variables institute. All but one included teachers in their teams. Principals or central office staff were respectively forgotten in two teams each. Of the total institute participants, 39 percent were classroom teaches, 33 percent principals, and 28 percent central office staff.

Attendance at Earlier SITIP Activities. Participants at three of the four summer institutes were surveyed to determine if they had attended the

earlier planning session for that SITIP instructional process. Approximately three-fourths of the Mastery Learning Institute participants (76.76 percent) attended the earlier planning session. Almost identical percentages of Student Team Learning (61.90 percent) and Active Teaching (61.29 percent) participants attended the respective planning sessions. As the attendance was not recorded for the Teaching Variables planning session, no comparison of the attendance match between the two SITIP activities is possible.

Summer Institute Activities

The descriptions of the four summer institutes which follow are summaries of the objective time accounts provided by the process observers.

Mastery Learning. The Mastery Learning Summer Institute was held on June 22-25, 1981, at the Coolfont Recreation Center. The institute staff consisted of three MSDE staff, Dr. James Block as the lead Mastery Learning consultant, and two LEA staff involved in their own district's implementation of Mastery Learning (Ms. Katherine Conner, School District of Philadelphia and Ms. Carol Barber, Denver Public Schools).

The three-day institute generally adhered to the original agenda of activities. During the first day, most of the institute was devoted to providing LEA participants with an overview of Mastery Learning. Dr. Block took primary responsibility for reviewing the philosophy and practices of Mastery Learning. He allotted time during his presentations for questions from the LEA participants. The group was attentive and involved in this review; however, many expressed an eagerness to move on to the classroom implementation topics scheduled for the second day of the institute.

The second day of the institute included several activities aimed at addressing local implementation concerns. The first two hours were allotted by the entire group to overviews of the Mastery Learning Programs in the School District of Philadelphia and Denver Public Schools. These presentations followed a staff development approach to Mastery Learning. LEA central office staff were more satisfied than teachers with this approach as it was more responsive to administrator concerns. Teachers indicated that they would have preferred a presentation approach more concerned with curriculum or instructional strategies.

Following these presentations, the individual LEA teams were divided into two groups; each group spent the remainder of the second day with one of the the two LEA consultants. Each group addressed slightly different topics related to Mastery Learning, but followed the same basic format of a consultant presentation and then hands-on practical application for group members in relation to their particular LEA project. Specific topics covered by the consultants focused on key Mastery Learning program ingredients and classroom planning and management for mastery. These group activities directly addressed teacher-expressed concerns related to the actual classroom implementation of Mastery Learning. Dr. Block, as the lead Mastery Learning consultant, was available to both consultant groups for questions and comments.

At the end of the second day, the individual LEA teams were provided with time to regroup and plan. An evening panel was also scheduled to further question all of the Mastery Learning consultants and plan for local implementation.

The final day of the institute closely followed the format of the second day group activities. The consultant groups addressed teaching to mastery and other implementation topics (i.e., staff development model, role of building principals, and support systems). Dr. Block again circulated between the two consultant groups. The LEA team members in each consultant group appeared more directed and selective in reviewing materials and practices focusing on local plans for implementation during the institute. As with the second day, LEA teams regrouped after these activities to compare notes and make additional plans.

The summer institute closed with a question and answer period, and individual LEA teams made progress reports to the entire institute group. MSDE staff also encouraged the LEAs to identify necessary activities for the fall SITIP follow-up session.

Student Team Learning: The summer institute on Student Team Learning was held on June 29 - July 1, 1981 at the Martingham Conference Center. The institute was led by Dr. Ruth Carter, the Student Team Learning Consultant. She was assisted by Dr. Robert Slavin, the developer of the Student Team Learning strategy, for the first day of the institute. MSDE staff were also present to coordinate the three-day institute.

Dr. Slavin opened the institute with a brief overview of the basic concepts involved in the Student Team Learning strategy. A short filmstrip, reinforcing Dr. Slavin's overview, was then presented. The remainder of the first day was composed of a simulation of student instructional organizational patterns, Teams-Games-Tournament (TGT) and Student Team Achievement Division (STAD). LEA participants were divided into three-person teams for

purposes of the simulation exercises. Participants were encouraged to ask questions at any time throughout the duration of the institute presentation. A portion of the day was devoted to trouble shooting and a discussion of teachers' concerns regarding the TGT and STAD, as well as another organizational pattern, simulated Jigsaw exercise. The institute broke early for lunch in order to provide interested participants with individual help. Participants were extremely interested in discussing the implementation of the SITIP strategy in their own schools.

The remainder of the second day was devoted to a review of the essential components of Student Team Learning and planning for local implementation. Participants prepared questions concerned with local implementation to be discussed by Dr. Carter on the final day of the institute.

The final day of the institute was devoted mainly to responding to the local concerns identified in the preceding day by the participants. Most of the local school district concerns dealt with the classroom adoption and implementation of Student Team Learning. Dr. Carter also briefly summarized the major issues covered during the institute. The participants were dismissed near lunchtime as they had completed the prepared institute agenda.

Active Teaching. The Active Teaching Summer Institute was conducted on July 13-14, 1981 at the Coolfont Recreation Center. The featured institute presenters were Drs. Thomas Good of the University of Missouri-Columbia and Jere Confrey of Mount Holyoke College. The MSDE staff coordinated the three-day institute.

Dr. Good opened the institute with an overview of the Active Teaching Model and a review of relevant research findings. He provided a clear discussion of the types of questions his research attempted to answer and provide participants with a perspective from which his work could be understood. Two videotapes of the Missouri Mathematics Program were shown and frequently interrupted to permit questions and discussion throughout. Although the purpose of the tapes was apparently unclear to the audience, Drs. Good and Confrey did point out aspects of the tapes that were relevant to active teaching in isolated cases. Additional questions were discussed upon completion of the videotapes. In the late afternoon, the large group broke up into separate LEA groups in order to discuss their individual proposals.

The second day of the institute appeared to depart from the prepared agenda. The day began with a discussion of the "review" aspects of the model and a more detailed explanation of the model. Dr. Good talked about research related to the Missouri Mathematics Program; however, the relationship between this program and the Active Teaching model was not made clear. A third videotape relating to the development portion of the lesson was shown, followed by a question and answer period.

After dinner, the group again convened and each of the counties made presentations regarding their plans for implementation of the Active Teaching model. This was considered to be the most productive part of the institute, as participants were particularly interested in implementation of the model and Good rarely addressed implementation issues in his own presentations.

The third and final day began with a discussion led by Dr. Confrey of the problem solving and the Missouri Mathematics program. This discussion focused on program ingredients and issues related to defining problem solving skills. Participants again tried to clarify the relationship between the Active Teaching model and the mathematics problem solving. Dr. Good ended the program at mid-day by summarizing the institute and responding to local implementation concerns.

Teaching Variables The Teaching Variables Summer Institute was conducted on July 6-8, 1981 at the Martingham Conference Center. The institute was staffed by two MSDE representatives, and three Research for Better Schools (RBS) staff from the Basic Skills component (Drs. Anna Graeber, Valarie French, and Janet Caldwell).

During the first day of the institute, participants were first provided with an overview of the Teaching Variables instructional improvement approach. Following this orientation, participants were divided into groups and remained in these groups for the remainder of the institute. Both groups received essentially the same training concerning two variables, student engaged time and content, in different order. (For the purposes of this presentation, only the training of one of the two groups is reported.)

Participants in the observed group were provided with a definition of student engaged time and unengaged time behaviors and then an opportunity to identify and code student behavior using videotapes and handouts. Unfortunately, only one 12-inch video monitor was provided for the entire group and thus, activities that relied on videotapes detracted from the overall effectiveness of the day's training. The group also experienced

some difficulty in not assigning value to their observations of student engaged time; the RBS staff responded to the group's difficulty by emphasizing the non-judgemental aspects of the observation activity.

The groups received additional training on student engaged time behavior, especially in terms of conducting the observation activity in the classroom. The group specifically received instruction on the relationship of student engaged time and student achievement and strategies for incorporating student engaged time in their classroom instructional practices. The presenters relied heavily on overlays and handouts to cover the day's extensive program.

An evening session was also scheduled to discuss materials provided to the LEAs not addressed during the day session and to begin training related to the content variable. Attendance at the evening session was less than at the scheduled day session.

During the final day of the institute, the group focused on the content variable. Included in this part of the training were issues related to instructional overlap and instructional planning, especially to correcting learning deficiencies. Handouts were again used to structure the group presentation; time was also allotted for participants' questions. During the day, attendance dropped as LEAs opted to leave early; this was most likely due to some combination of fatigue from the extensive content of the institute training program as well as routine attrition as the training program neared its end.

Participant Evaluation of Summer Institutes

The evaluation of the four in-depth summer institutes is based upon the results of a standard evaluation rating form which all participants

were asked to complete at the close of their three day institute. Participants were asked to provide ratings indicating the degree to which they agreed or disagreed with a list of thirteen statements which referred to preparation prior to the conference, objectives, effectiveness of presenters and readiness to implement the selected instructional processes. Their ratings are summarized in Table 15. Ratings ranged from a high of 5.00 indicating "Strongly Agree" to a low of 1.00 indicating "Strongly Disagree." In addition to the participant ratings of the thirteen evaluative statements, participants also responded to open-ended statements indicating what they liked most and least about the training institutes. An analysis of their responses is also presented in this subsection.

Mastery Learning. Mean ratings of participants in the Mastery Learning summer institute ranged from a high of 4.81 to a low of 4.15. These ratings are indicative of an extremely effective and well-run training institute. Prior to attending, participants understood the objectives of the institute and were very familiar with the proposal submitted by their district. The content of the institute was presented at an appropriate level for the audience and the training needs which were identified at the planning session were adequately addressed at the institute. Mean ratings of the effectiveness of the presenters were all 4.50 or higher, reflecting a high degree of agreement as to the excellence of the presenters. Participants felt that they had received sufficient individual attention concerning their particular SITIP projects. The items receiving the lowest mean rating revealed a concern by some participants that their school system was not yet ready to implement the proposal it had written.

Table 15

Participants' Ratings of SITIP Summer Institutes*

Item	Mastery Learning	Student Team Learning	Active Teaching	Teaching Variables
1. Prior to attending, I understood the purpose and objectives of the summer institute.	4.25	4.15	4.04	3.34
2. Prior to attending the summer institute, I was familiar with the proposal submitted by my district.	4.61	3.49	3.93	3.91
3. The purpose of the summer institute was clearly presented throughout the program.	4.78	4.80	3.59	3.47
4. The content of the institute was presented at an appropriate level for the audience.	4.67	4.75	3.15	2.97
5. The content presentation and group participation were well balanced in the conduct of the institute.	4.19	4.45	2.67	2.37
6. The needs for training which were identified at the planning session were adequately addressed at the institute.	4.48	4.55	3.00	3.16
7. The format of the institute was appropriate for the size of the audience.	4.70	4.75	3.41	3.06
8. The presenter(s) made appropriate use of audiovisual materials.	4.52	4.40	3.62	3.37
9. The presenter(s) communicated well with the audience.	4.81	4.85	3.07	2.87
10. There was sufficient time allowed for the audience to interact with and question the presenter(s).	4.70	4.68	4.00	3.39
11. The conference facilities were satisfactory.	4.67	4.53	4.19	3.32
12. My district received sufficient attention concerning its SITIP project.	4.33	4.44	4.11	3.30
13. I feel confident that my school system can now implement its proposal.	4.15	4.28	4.22	3.57

*Mean ratings can range from a high of 5.00 to a low of 1.00.

An analysis of the responses to the open-ended questions included in the evaluative form provided strong support for the very positive results provided by the participants' ratings. In response to the question concerning what participants liked most about the institute, 60 percent mentioned the competence and expertise of the presenters.

Participants were also asked to suggest possible changes for future training institutes. Only two suggestions were mentioned with any degree of consistency. Almost half wanted to extend the institute over a longer period of time due to the wealth of material presented. Another fourth of the participants expressed a desire to select a more central and convenient location for holding the institute.

Student Team Learning. Participants' mean ratings of the Student Team Learning summer institute varied from a high of 4.85 to a low of 3.49. These ratings, almost totally above 4.00, indicate that the institute was extremely well-run and effective. The only items with a mean rating of less than 4.00 indicated that many participants were unfamiliar with the proposals submitted by their districts prior to attending the summer institutes.

Ratings indicated that participants had understood the objectives of the summer institute prior to attending. The objective of the Student Team Learning institute was clearly presented throughout the program. Participants reported that the content was presented at an appropriate level for the audinece and that there was a good balance between the presentation of content and participation of the group. The institute adequately addressed the needs for training which had been identified at the planning session.

Participants claimed that the format of the institute was appropriate for the size of the audience. Ratings indicated that the presenters were very effective, making good use of audiovisual materials and communicating well with the audience. In addition, they allowed sufficient time for interaction with the audience. Participants felt that they had received sufficient individual attention concerning their SITIP project and felt confident that their school system would be able to implement its proposal.

Active Teaching. Participants' ratings of the Active Teaching summer institute ranged from a high of 4.22 to a low of 2.67. The major areas of concern indicated by relatively lower ratings dealt with the presentation of the summer institute. Participants claimed a lack of balance between content presentation and group participation. They felt that the need for training, which they had identified at the planning session, was not adequately addressed at the institute. A number of participants rated the presenters as not communicating well with the audience. Others felt that the content of the institute was not presented at an appropriate level for the audience. On the more positive side, there was sufficient time for the audience to interact with and question the presenters. The conference facilities were considered to be satisfactory. Participants received sufficient individual attention concerning their SITIP projects and felt confident that their school system would be able to implement their proposals.

Teaching Variables. Participants' mean ratings of the Teaching Variables summer institute ranged from a high of 3.91 to a low of 2.87. The ratings for this institute were generally lower than participant

ratings for the other institutes. No mean ratings for this institute reached a value of 4.00 or greater which would have indicated a strong, positive response to the summer institute. The most positive response given by participants indicated that they were familiar with their locally submitted proposals prior to the institute.

The items receiving the lowest mean ratings revealed a basic problem with the presentation of content. The participants felt that the presenters did not communicate well with the audience and did not present material at a level which was appropriate for the audience. In addition, content presentation and group participation were not well balanced. Nevertheless, at the end, participants were relatively confident that they could implement their proposals.

Summary. Participants' ratings of the four summer institutes were generally positive. The mean ratings for the Mastery Learning institute were all above 4.00 identifying it as the highest rated institute. Except for the Teaching Variables institute, the participant mean ratings showed marked improvement from the SITIP awareness conferences to the summer institutes on the item concerning their confidence to implement the SITIP project. This finding suggests that the summer institutes were generally effective in preparing local school districts for initial implementation.

Concerns of Institute Participants

The SoCQs were complete by a total of 127 participants who had attended the summer institutes.

If the summer institutes were successful in providing team training, teachers' profiles would be relatively flat with high points on personal

and collaboration concerns; principals and LEA staff would be most interested in what others were doing (collaboration) and might also be interested in more information, or have concerns about management. At this point, consequence concerns would be lowest for all groups, and awareness and refocusing also would be low. Differences in response patterns could indicate that 1) a local implementation plan/design had a strong influence on participants' concerns, and/or 2) participants had received insufficient or inappropriate training. Response data not only assist in determing SITIP effectiveness but also suggest needs that should be addressed by MSDE staff or others providing technical assistance for implementation.

Table 16 summarizes the number of questionnaires returned by each of the SITIP participant groups. The results were consistent for each of the four summer institute groups. Overall, approximately 60 percent of the respondents were classroom teachers. Principals and central office staff respectively comprised 22 and 16 percent of the sample. The results are reported for each of the four separate summer institutes. Then results for three participant groups -- teachers, principals, and LEA central office staff -- are discussed, comparing concerns after the four Awareness Conferences (February 1981) with concerns after the Summer Institutes.

Mastery Learning. SoCQ responses are reported for 26 respondents -- teachers (16), principals (7), and LEA staff (3) -- on Table 17.

Teachers' concerns are primarily personal, indicating some uncertainty about how they will cope with the demands of Mastery Learning in addition to existing tasks. They are also interested in collaboration -- working with others to implement Mastery Learning. In general, they are fairly well prepared to begin implementation, but need support and reassurance.

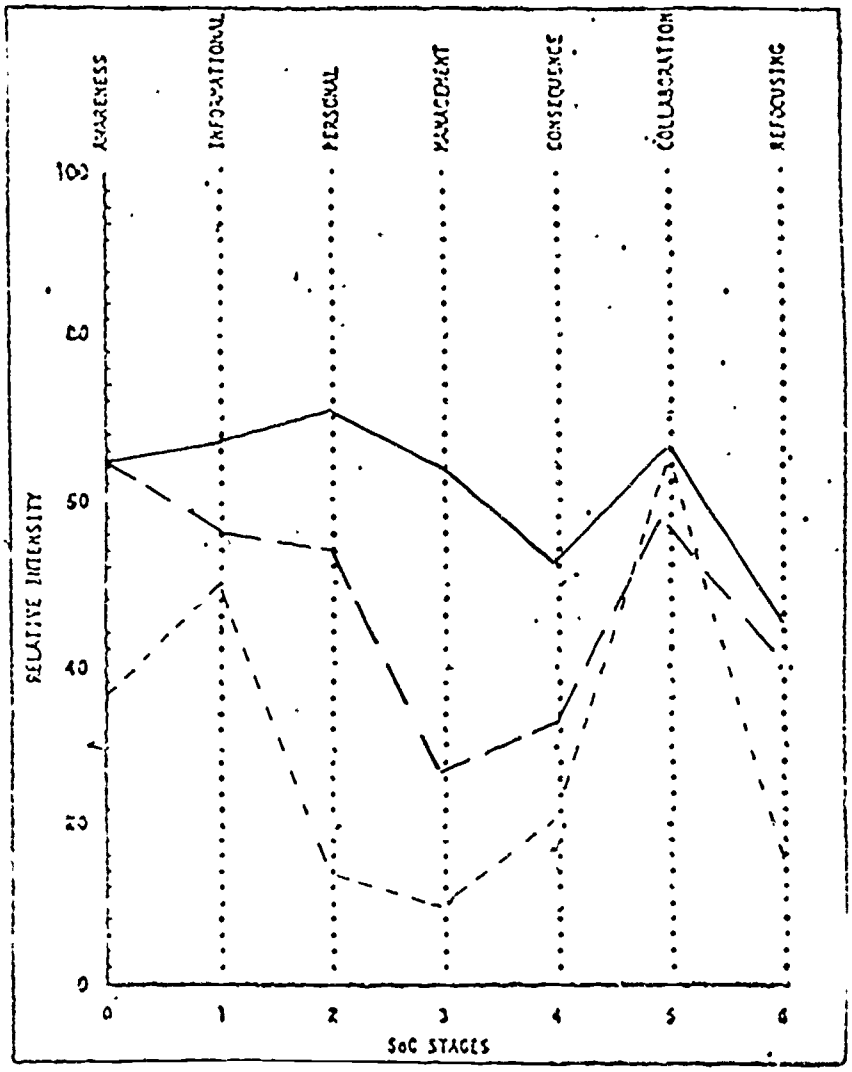
Table 16

SoCQ Respondent Sample for SITIP Summer Institutes

SITIP Participant Group	Mastery Learning		Student Team Learning		Teaching Variables		Active Teaching		Totals	
	N	%	N	%	N	%	N	%	N	%
Classroom Teachers	16	59.26	29	70.73	19	61.30	12	42.86	76	59.84
Principals	7	25.93	6	14.63	6	19.35	9	32.14	28	22.05
Central Office Staff	3	11.11	4	9.76	6	19.35	7	25.00	20	15.75
Others	1	3.70	2	4.88	0	0.00	0	0.00	3	2.36
Total	27	100.00	41	100.00	31	100.00	28	100.00	127	100.00

Table 17

SoCQ Responses for Mastery Learning Summer Institute



Key: teachers (N=16) _____
principals (N=7) __ __ __ __
LEA staff (N=3) ----------

Principal's concerns peak on awareness and collaboration with close scores also shown on informational and personal concerns. This profile indicates that principals do not expect to be directly involved in implementation, but are interested in knowing more about Mastefy Learning and how other people use it.

LEA central office staff focus on coordination and cooperation with others to implement Mastery Learning. They also have a slight interest in learning more about the topic. All other areas of concern are very low, indicating distance from direct implementation.

The mutual interest in collaboration indicates that the team approach of SITIP should continue in order to provide cross-hierarchical support and cross-county communication.

Student Team Learning. SoCQ responses are reported for 39 participants -- teachers (20), principals (6), and LEA staff (4) -- in Table 18.

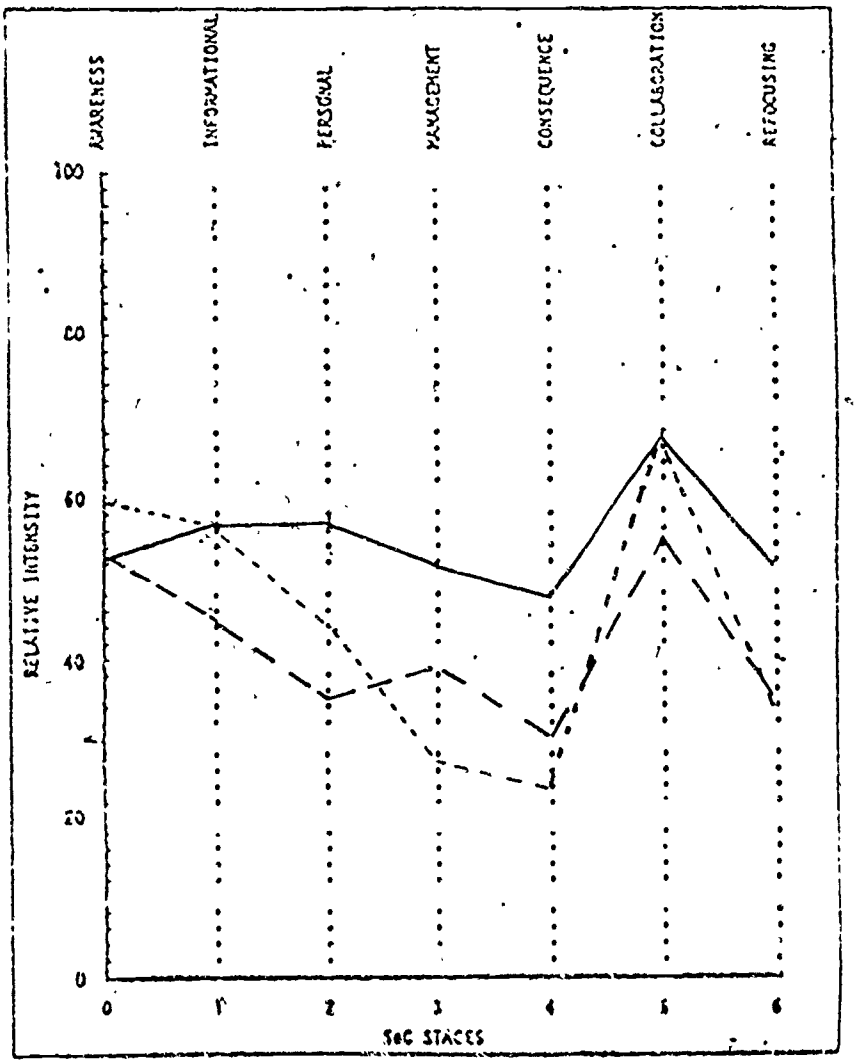
Teachers' concerns focus on collaboration -- cooperating with others for Student Team Learning implementation. Informational and personal concerns are equal at 57 (11 points below collaboration) indicating a need for more information and for support in coping with the demands of Student Team Learning. If this occurs, implementation should be successful.

Principal's concerns are highest on collaboration and awareness, indicating an interest in knowing what others are doing but feeling no direct involvement with Student Team Learning.

LEA staff concerns are also highest on collaboration and awareness, with some need for more information.

Table 18

SoCQ Responses for Student Team Learning Summer Institute



Key: teachers (N=29) _____
principals (N=6) __ __ __ __
LEA staff (N=4) ----------

The mutual interest in collaboration indicates that the cross-hierarchical, cross-county SITIP model should continue to be used to provide support and information to participants.

Active Teaching. SoCQ responses are reported for 28 participants -- teachers (12), principals (9), and LEA staff (7) -- in Table 19.

Teachers' concerns are equal for awareness and information, with personal concerns next highest. While the latter indicates some uncertainty about coping with Active Teaching, informational concerns indicate an interest in learning more about the topic and awareness concerns indicate a lack of involvement. The overall profile, with all concerns below 60, indicates that teachers could begin planning for implementation, but they need more information about the topic and how Active Teaching would impact on their other work.

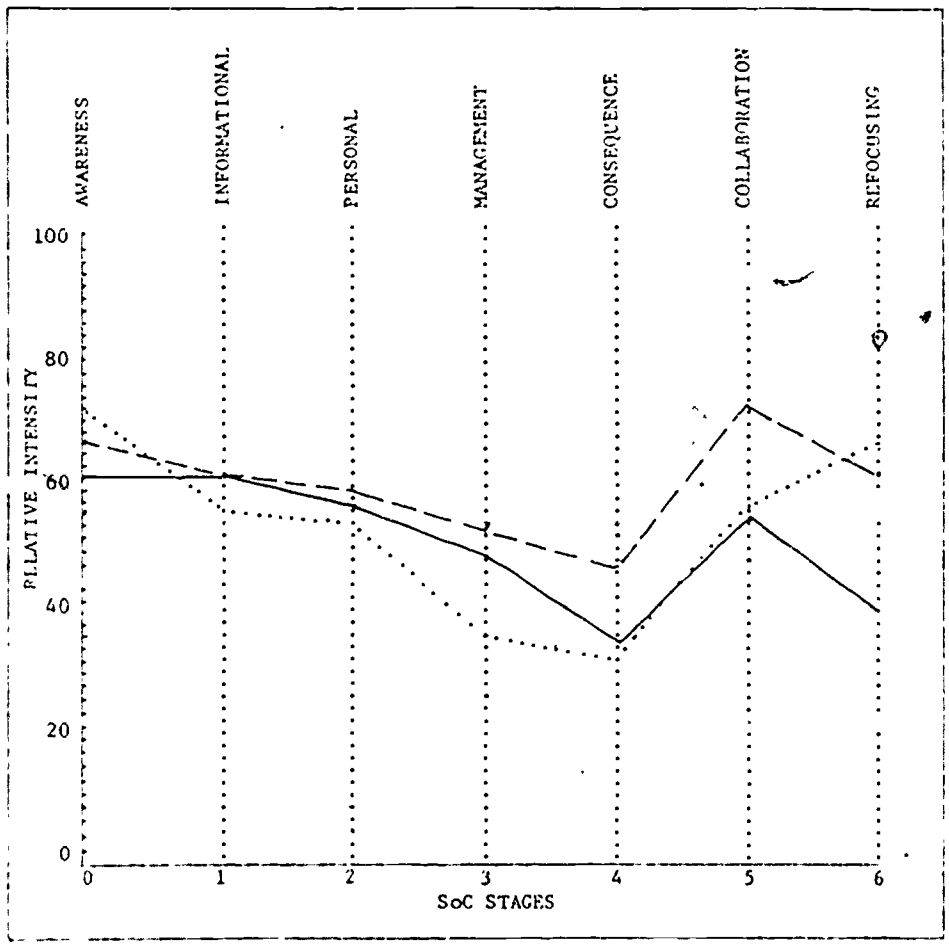
Principals' concerns focus on collaboration, are next highest on awareness, then equal (60) for information and refocusing. This profile indicates that principals want to know what others are doing; they feel no direct involvement, but are interested in knowing more about Active Teaching -- possibly to consider alternative ways of applying the topic ideas.

LEA staff focus on awareness and refocusing, indicating a feeling of distance from direct implementation and wondering about alternatives -- ways of using Active Teaching principles in ways other than those presented in the SITIP training.

The greatest common need appears to be clarification: is Active Teaching sufficiently understood by participants, and are local implementation plans appropriate for the topic and acceptable to all three groups of

Table 19

SoCQ Responses for Active Teaching Summer Institute



Key: teachers (N=12) _____
principals (N=9) _ _ _ _
LEA staff (N=7) .....

participants? The next question to be addressed should focus on individual roles and tasks.

Teaching Variables. SoCQ responses are reported for 31 participants -- teachers (19), principals (6), and LEA staff (6) -- in Table 20.

Teachers' concerns are highest for awareness, with informational (66) and personal (63) concerns also relatively high. These scores indicate little involvement with Teaching Variables, a need for more information, and some uncertainty about coping with the demands of implementation.

Principals' concerns are high for awareness (81), then on information (66), with collaboration (59) next. They feel uninvolved, need more information, and want to know what others are doing. There are also some management concerns (relating to efficiency, organizing, managing, and use of time).

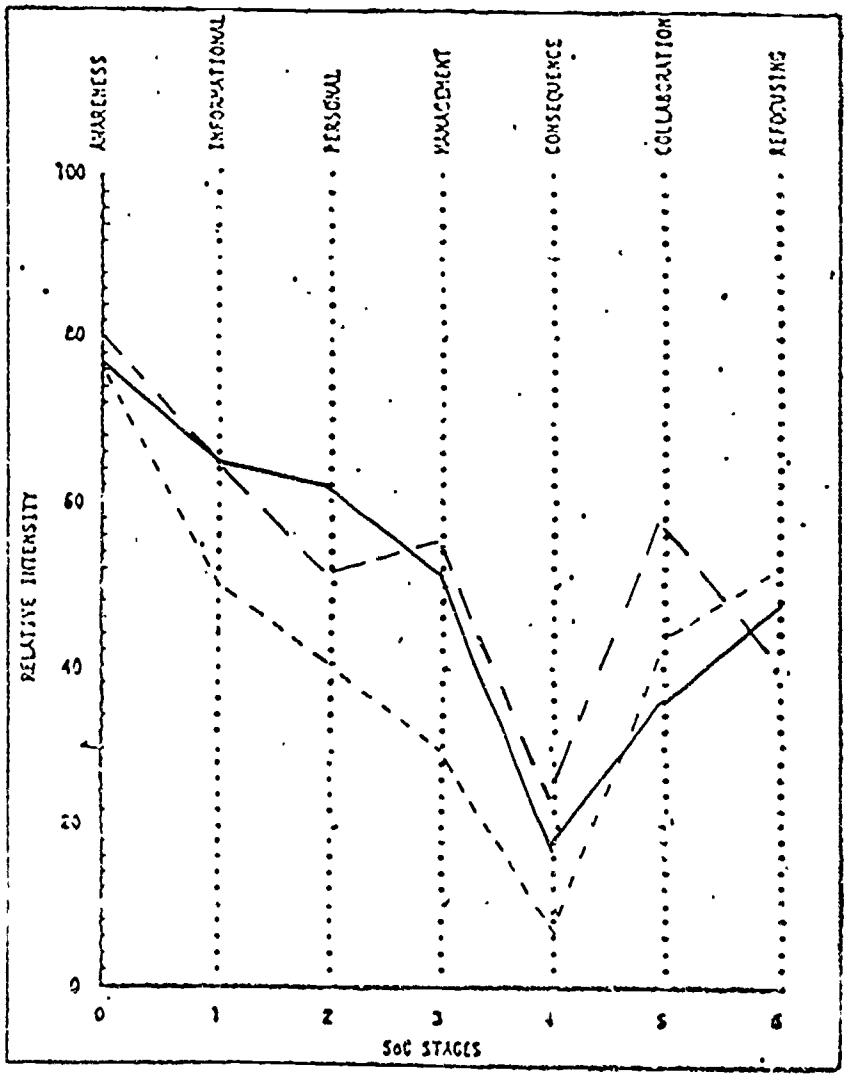
LEA staff concerns have a profile similar to those of the teachers. They are highest for awareness (77) with refocusing (52) and informational (51) concerns following. They feel uninvolved, have ideas about alternatives to Teaching Variables, and may need more information.

The feeling of lack of involvement among all three groups indicates a need to build commitment if implementation is to be successful. More information relating to individual roles, and ways to coordinate efforts may be useful. The refocusing concern needs to be addressed -- adaptation or withdrawal are indicated by the present profile.

Overall SoCQ Responses for the Summer Training. It should be noted that each LEA developed an implementation plan prior to the summer training, with some plans focusing on direct implementation by the teachers being

Table 20

Participant SoCQ Responses for Teaching Variables Summer Institute



Key: teachers (N=19) _____
principals (N=6) _ _ _ _ _
LEA staff (N=6) _____

trained, and some plans using a staff development approach. The primary objective of summer training sessions was to train participants for classroom implementation, which meant that LEAs using a staff development approach or planning adaptation, needed to transfer learnings.

It should also be noted that the original SITIP design required local teams to attend all four topic orientation conferences, and after topic selection and planning for implementation, each team (plus new members) would attend the appropriate summer training. In many cases, team membership changed so that some participants began the summer training with considerable prior knowledge, while others had very little or none at all.

With these points in mind, it is difficult to compare SoCQ results across the four topics. However, if it is assumed that at this point teachers should be prepared for classroom implementation; principals should be informed and supportive; LEA staff should also be informed and supportive; and all three groups should be prepared to work with each other and with teams from other LEAs, some general comparisons can be made.

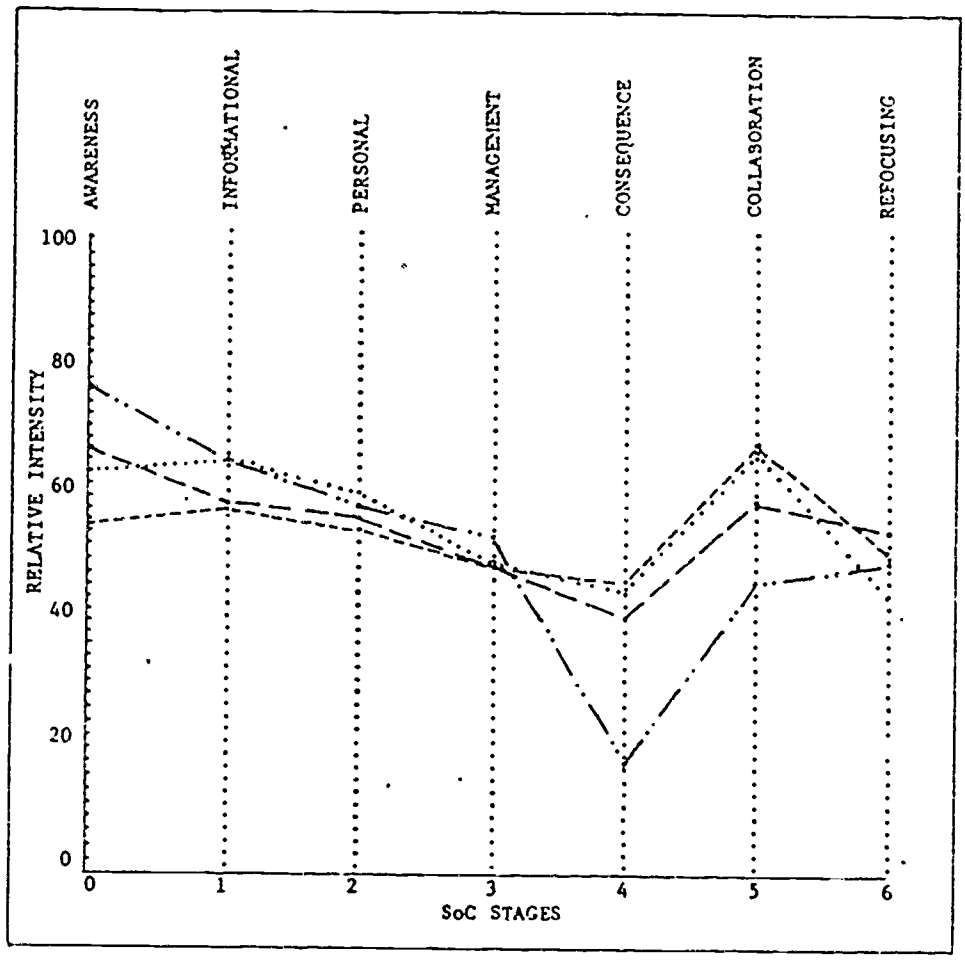
Responses are combined across groups for each of the four topics and results are presented in Table 21.

The primary focus for two topics -- Student Team Learning (66) and Mastery Learning (65) -- was collaboration, which was also the second peak for Active Teaching (59). This reinforces the SITIP approach and is a positive indicator for implementation.

The second highest concern for three topics -- Student Team Learning (55), Mastery Learning (63), Teaching Variables (63) -- was informational. By itself, this is neutral; informational concerns need to be considered in relationship to other high concerns and the overall profile.

Table 21

Comparison of SoCQ Responses for the Four Summer Institutes



Key: Team training, Mastery Learning, July 1981 (N=26).....
Team training, Student Team Learning, July 1981 (N=39)-----
Team training, Teaching Variables, July 1981 (N=31)__..__..
Team training, Active Teaching, July 1981 (N=29)- - - - - -

The primary focus for two topics -- Active Teaching (66) and Teaching Variables (77) -- was awareness, indicating a lack of involvement with implementation. This combined with responses on informational and personal concerns is a negative indicator for implementation. However, improvement could probably be made if participants' concerns are addressed.

The lowest concern for three topics -- Student Team Learning (45), Active Teaching (38) and Teaching Variables (16) -- was consequences. It was second lowest for Mastery Learning (44). This was to be expected at this point.

The following response patterns (in addition to the relatively high awareness scores mentioned earlier) suggested needs to be addressed if implementation is to be successful: 1) the tilt to refocusing for Teaching Variables, 2) the comparatively low interest in collaboration with Teaching Variables, and 3) the extremely low interest in consequences (impact on students) of Teaching Variables.

In very general terms, and assuming LEA plans required classroom implementation without adaptation, SoCQ data suggested the order of probable success for the four topics: Student Team Learning, Mastery Learning, Active Teaching, and Teaching Variables.

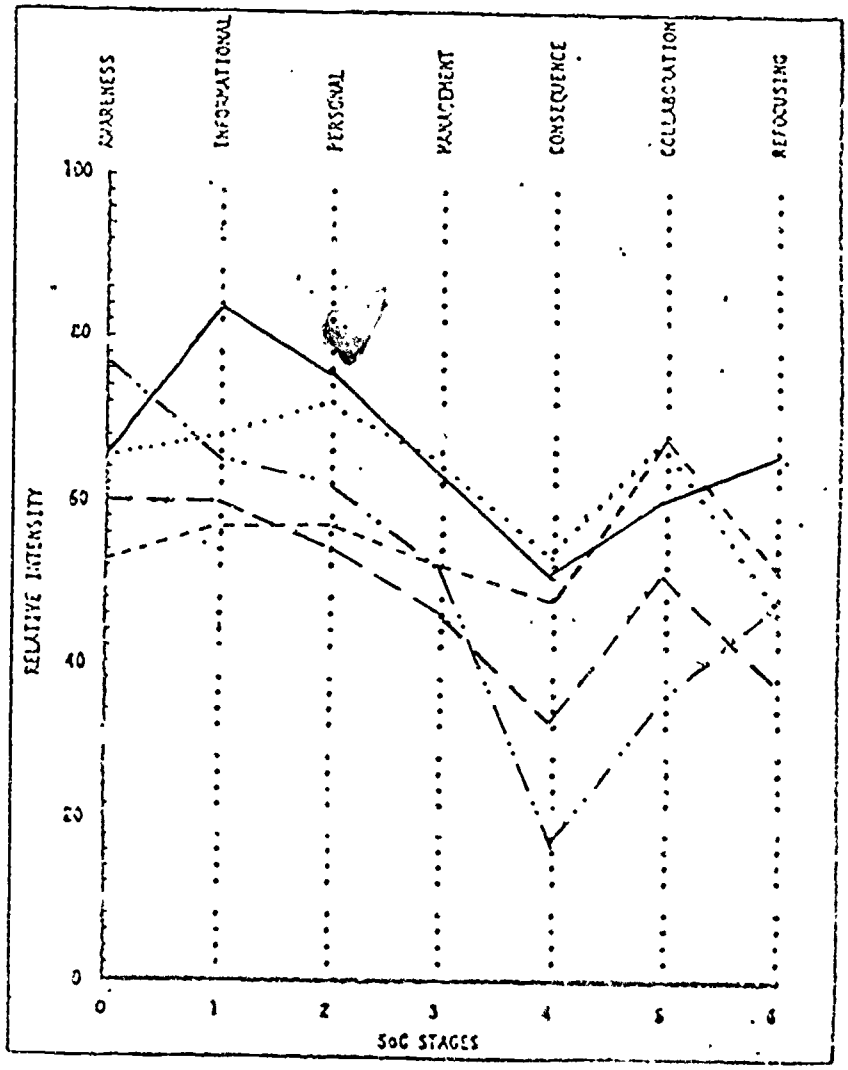
Comparison of Concerns

The discussion which follows compares SoCQ results of February with those of the summer, by role group.

Comparison of Teachers' Concerns. After the four orientation sessions (February 1981), 25 teachers responded to the SoCQ. Teachers participating in each of the summer training sessions also completed the SoCQ. Results are shown in Table 22.

Table 22

Comparison of Teachers' SoCQ Responses
(February and July 1981)



Key: Orientation sessions, February 1981 (N=25) _____
Team training, Mastery Learning, July 1981 (N=16).....
Team training, Active Teaching, July 1981 (N=12) — — — — —
Team training, Student Team Learning, July 1981 (N=29)- - - - - -
Team training, Teaching Variables, July 1981 (N=19) — .. — ..

The February profile had, overall, higher degrees of concern than any of the summer profiles. The peak for February indicated strong information needs; personal concerns were also high; the tilt toward refocusing indicated consideration of alternatives. By contrast, the general impression for the summer profile indicated an interest in collaboration and a concern about personal involvement (or lack of it). The profile for Student Team Learning indicated the greatest probability of implementation of the program as it was taught (fidelity adoption). By contrast, Teaching Variables was a candidate for adaptation (unless teachers became more committed to the program and understood how they could deal with it.) The Mastery Learning profile was similar to Student Team Learning but much higher on the first four stages of concern, suggesting greater need for information and support. There were also some similarities for Active Teaching, but the comparatively high awareness and information concerns suggested a lack of involvement which was not desirable if teachers were to implement the program in the classroom.

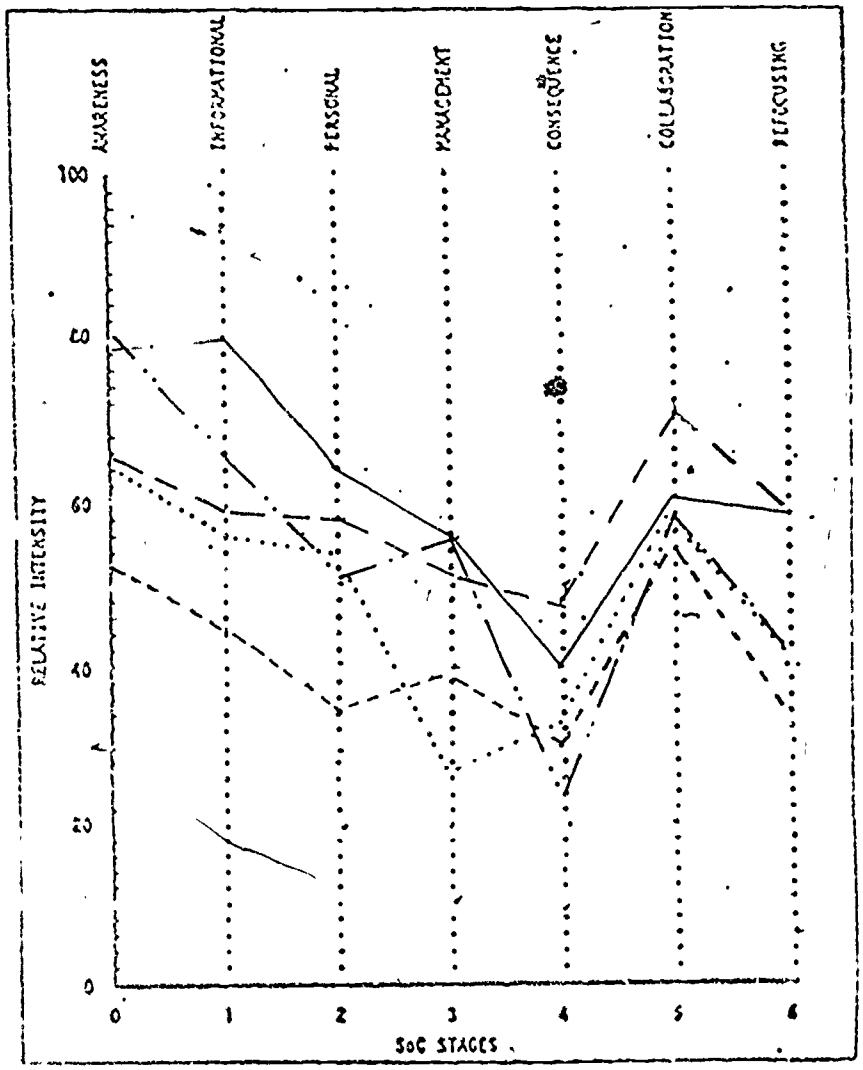
The greatest common need for teachers was information about their own role in the program and how that related to existing commitments. Once that was resolved, and with opportunity to collaborate, teachers would be ready to move on to management issues.

Comparison of Principal's Concerns. Principals' concerns for each of the four summer training sessions are compared with those of the orientation sessions (February) in Table 23.

The February profile suggested a lack of involvement, willingness to attend to more information, and an interest in what others were doing or alternatives for instructional improvement. With the exception of the peak

Table 23

Comparison of Principals' SoCQ Responses
(February and July 1981)



Key: Orientation sessions, February 1981 (N=19)_____
Team training, Mastery Learning, July 1981 (N=7).....
Team training, Active Teaching, July 1981 (N=9)- - - - - -
Team training, Student Team Learning, July 1981 (N=6)------
Team training, Teaching Variables, July 1981 (N=6)__..__..

for collaboration on all four summer training sessions, few generalizations can be offered for the summer to compare with February responses; each must be looked at separately.

For Student Team Learning, principals' concerns decreased in all areas; by July, principals were most interested in collaboration, felt uninvolved with direct implementation, but had some management concerns.

For Mastery Learning, principals' concerns also decreased in all areas, with the greatest differences occurring for management and information. July peaks indicated interest in collaboration, with some personal information needs and a general lack of direct involvement in implementation.

Active Teaching concerns increased in the areas of consequence and collaboration from February to July, with refocusing remaining the same, and with slight decreases in personal and management concerns.

The Teaching Variables profile contrasted sharply with Mastery Learning on awareness and management concerns (with Teaching Variables much higher than Mastery Learning, and matching the February responses in both areas). The collaboration score was also little changed, and consequence concerns were still low. Overall, the profile suggested that principals understood more about the program but were just as concerned as in February about how it would be managed.

Overall, some efforts were needed to increase principals' sense of involvement, especially for Teaching Variables; for all but Student Team Learning information to clarify personal roles would be useful; management issues needed to be resolved for Teaching Variables and Active Teaching; in all cases, opportunity was needed for system collaboration and learning what other principals were doing. This last area was the primary need.

Comparison of LEA Staff Concerns. The concerns of central office (LEA) staff are compared in Table 24.

The February profile indicated high information concerns backed by high awareness (indicating uninvolvement) with some interest in what others were doing (collaboration) and in alternatives for instructional improvement (refocusing).

With the exception of Mastery Learning, in July information needs decreased but the pattern of responses for awareness, personal, management, consequences, and collaboration was similar to the February profile for three topics. The Mastery Learning profile indicated the highest commitment, and high need for information from others involved in the program. Active Teaching and Teaching Variables had low commitment and were likely to be adapted or replaced.

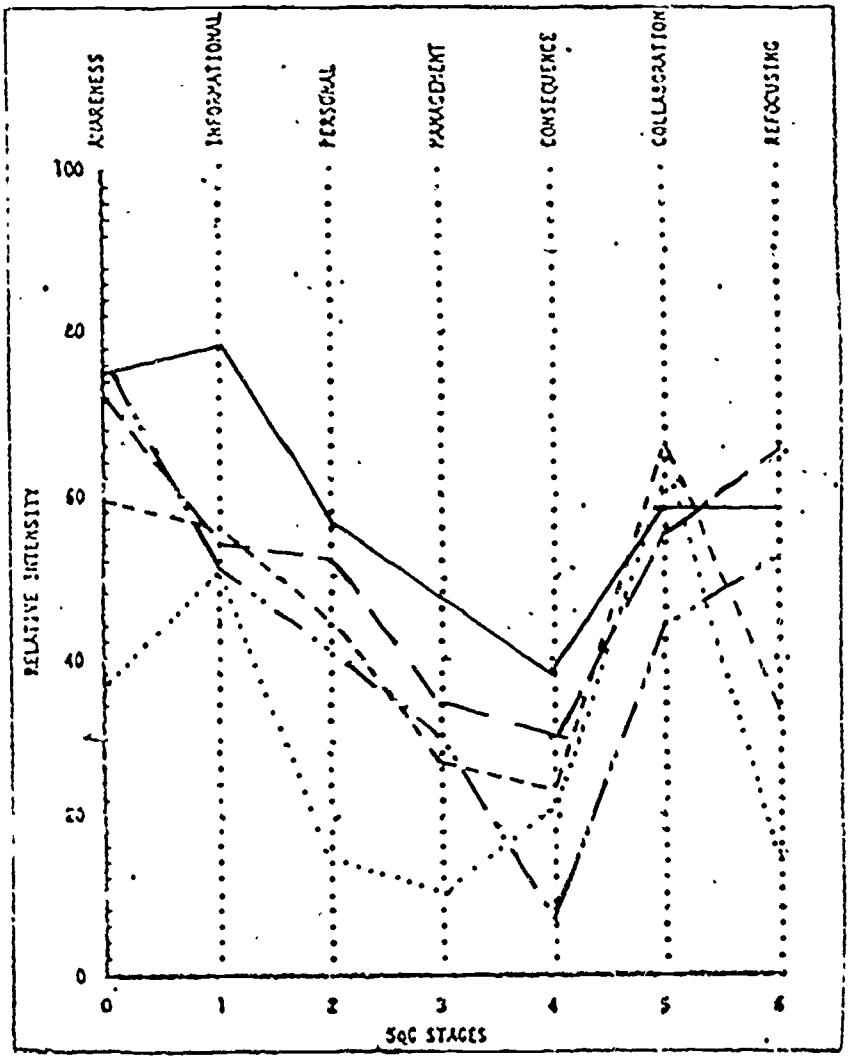
Overall, LEA staff needed opportunities to discuss the four topics with each other and with system teams, and they needed to provide active support to school staff engaged in implementation.

Summary of Summer Institutes

Attendance requirements were met by approximately half of the districts for three of the four institutes; only one district followed the attendance recommendations for the fourth institute. For the three instructional processes on which attendance data were available for both the planning session and summer institute, at least three-fifths of the summer institute participants had attended the earlier planning session. This finding suggests that the membership of the LEA SITIP teams became more stable over time.

Table 24

Comparison of Cental Office Staff SoCQ Responses
(February and July 1981)



Key: Orientation sessions, February 1981 (N=59)_____
Team training, Mastery Learning, July 1981 (N=3).....
Team training, Active Teaching, July 1981 (N=7)- - - - - - -
Team training, Student Team Learning, July 1981 (N=4)-------
Team training, Teaching Variables, July 1981 (N=6)__.__..

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Generally, the observers' reports indicated that the institutes adhered to the originally specified agenda of activities. Based on the observers' accounts, it appeared that the summer institutes went fairly smoothly with some minor exceptions. The Mastery Learning institute ran well and no problems were mentioned in the observer's report. The Student Team Learning institute was completed ahead of schedule and it might have easily been confined to two days instead of three. The Active Teaching institute report described the presentation of materials as somewhat unclear and geared toward the research aspects of the topic as opposed to the more practical issues of implementation. The Teaching Variables institute report indicated that the content of the program may have been overly extensive for the time allowed.

The evaluation rating forms completed by participants upon completion of the institutes indicated that participants were generally pleased with the presentations. The Mastery Learning institute received the highest mean ratings and provides support for the positive observer's report presented earlier in this section. Of all the institutes, the Teaching Variables presentation received the lowest ratings. The observer's report suggests that this may have been due to the vast quantity of the material presented to the audience.

At the end of each of the summer institutes, participants were asked to complete the SoCQ. While there were no highly negative results, there were indications of need for each respondent group in each topic. Some way of meeting these needs needed to be developed, such as networking among participants or systematic provision of technical assistance by MSDE and/or

program developers. Student Team Learning was most likely to be implemented successfully without further help; Teaching Variables, on the other hand, appeared to be least likely to be implemented successfully without further help -- although all four topics were likely to be implemented in some form and to some extent.

Follow-Up Sessions

In the initial SITIP design (fall 1980) two follow-up sessions were planned a statewide meetings to be held in the fall of 1981 and the spring of 1982. Each meeting would be attended by representatives of all 19 LEAs, with opening and closing sessions attended by all participants and small-group concurrent sessions attended by those involved in the topic(s) presented. Plans indicated that MSDE staff responsible for staff development would probably coordinate follow-up meetings. The overall objective would be to support local implementation by increasing participants' expertise and confidence in the topic(s) adopted.

The initial design was revised in the spring of 1981 mainly because data collected from awareness conferences and planning efforts indicated that, if implementation was to be successful, technical assistance (TA) was needed -- not in a general way, but related to each specific topic.* The assistance role and activities were defined and it was decided that follow-up activities should be designed and coordinated by MSDE TA incumbents who would involve local implementers in planning according to their needs and the requirements of the specific topic adopted. This section of the paper

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*See chapter on technical assistance for further discussion

discusses the follow-up sessions coordinated by the MSDE technical assistants.

Six follow-up meetings were held by MSDE during the first year of the SITIP project. One Active Teaching follow-up meeting was held in April 1982, and one for Mastery Learning in March 1982. Student Team Learning participants attended two follow-up sessions, in December 1981 and April 1982. Two TV follow-up meetings were held during March 1982 -- one for the Eastern Shore counties and the other for the more urban counties near Baltimore.

The evaluation of the follow-up sessions was designed to answer the following questions:

- What were the processes and substance of each meeting?
- Who attended the meetings and how many of the participants attended the SITIP activities prior to the follow-up?
- How did the LEA participants evaluate the meetings?
- What were the future needs and concerns most often expressed by the LEA members?

The narrative which follows has been divided into five sections. The first four sections address the evaluation questions for each of the four instructional processes. The last section presents an overall summary across all the follow-up meetings.

Active Teaching

This section describes the follow-up session, presents participation data and participant evaluation and concerns for Active Teaching (AT).

Description. The two MSDE TAs designed the meeting based on their understanding of local needs and interests, and influenced by a wish to

involve an expert outsider. They also took into account data on follow-ups held for the other topics. There was little direct local involvement in planning the follow-up. The AT follow-up meeting was held at the Will O' the Wisp Resort in Garrett County on April 22 and 23, 1982.

At the beginning of the evening session on April 22, each participant was given a packet of conference materials. The agenda for this session included introductions, the sharing of local projects, and a hospitality hour. During the sharing portion of the session, each county made a presentation about the progress of its project using a common format designed by the MSDE TA, and prepared ahead of time. Counties handed out written summaries of their presentations to the participants.

The guest speaker for the April 23rd session was Dr. David Berliner.* Prior to the meeting, participants were provided with an advance reading by Dr. Berliner on the teacher as a decision manager. Dr. Berliner gave a 75 minute presentation on the crucial variables affecting teaching quality and student achievement, which he described as allocated time, engaged time, success rate, academic learning time, and opportunity to learn. He concluded his presentation by describing how all these variables come together in direct instruction or active teaching and how models such as AT that emphasize these variables result in higher achievement levels.

The next activity on the April 23rd agenda was small-group discussions. The participants engaged in two activities within their groups: 1) classi-

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*Dr. Berliner is a professor of educational psychology at the University of Arizona, presently working for one year at the National Institute of Education (NIE). He previously worked on the Beginning Teacher Evaluation Study (BTES) at the Far West Laboratory.

fying the variables of effective teaching discussed by Dr. Berliner into each of the components of the AT model, and 2) coming up with any issues or concerns regarding AT.

The small-group discussions were followed by a total group question/answer session in which the group participants addressed their questions and concerns to Dr. Berliner or to the TAs.

The TAs then gave a brief overview of the papers that were included in the conference packets on concerns and issues in developing model demonstration projects and on methods of program evaluation.

Completing the follow-up feedback forms was the last item on the conference agenda.

LEA Participation. The meeting was attended by the two MSDE TAs for AT, several MSDE staff, the RBS observer, and LEA staff from all counties implementing AT, making a total of approximately 35 participants.

Table 25 shows that the majority of local participants were teachers (52.17%). The number of participants, by role group, that attended at least three SITIP activities prior to the AT follow-up is also shown in Table 25. It should be noted that of the 23 survey respondents, 12 had attended at least three prior events (43%). Central office staff and school administrators had the highest percentage of participants in earlier events.

Two of the five counties sent cross-hierarchical teams: one county did not send any teachers, and two counties did not send any central office personnel to the meeting (see Table 26).

Table 25

LEA Participation in Follow-Up Meetings and in Three or More Prior Events

Roles by Topics	Total N*	Total %	≥3 Events %
Active Teaching			
Central Office	7	30.43	26.09
School Administrators	4	17.39	17.39
Teachers	12	52.17	8.70
Total	23	100	52.17
Mastery Learning			
Central Office	5	17.24	17.24
School Administrators	2	6.90	6.90
Teachers	22	75.86	20.69
Total	29	100	44.83
Student Team Learning (12/81)			
Central Office	3	9.37	6.25
School Administrators	4	12.50	12.50
Teachers	25	78.13	46.87
Total	32	100	65.62
Student Team Learning (5/82)			
Central Office	8	17.78	15.55
School Administrators	5	11.11	6.66
Teachers	32	71.11	55.55
Total	45	100	77.76
Teaching Variables (ES)			
Central Office	3	23.08	23.08
School Administrators	3	23.08	23.08
Teachers	7	53.85	30.77
Total	13	100	76.92
Teaching Variables (Urban)			
Central Office	2	22.22	0
School Administrators	3	33.33	22.22
Teachers	4	44.44	11.11
Total	9	100	33.33

*Numbers are based on responses to Follow-up Feedback Forms.

Table 26

Participant Groups Attending SITIP Follow-Up Meetings

LEA \ Topic	Active Teaching	Mastery Learning	Student Team Learning #1	Student Team Learning #2	Teaching Variables E. Shore	Teaching Variables Urban
Allegany		1,2,3				
Anne Arundel		1,2,3				
Balto. City		1,3				
Balto. Co.		1,2,3	1,2	1,3		
Calvert			1	1,2,3	1,2	1,2
Cecil	1,2,3					
Charles			1,2	1,2		
Frederick						1,2,3
Garrett	1,2,3					
Harford	2,3					
Howard						
Kent					1,2,3	
Montgomery	1,2		1	1		1,2,3
P. George's			1,3	1,3		
Queen Anne's			1,2,3	1,2,3		
St. Mary's	1,2					
Somerset					1,2,3	
Washington			1	1,2,3		
Worcester		1,2,3	1,2,3	1,2		

Role Groups:
1. Teachers
2. School administrators (principals)
3. Central office staff

Participant Evaluation. In general, the participants gave favorable evaluations to the follow-up meeting. Mean ratings ranged from 4.44 to 3.87 with 5.00 being most positive and 1.00 being least positive (see Table 27). The majority of the respondents indicated that they understood the purpose and activities of the meeting, that the activities of the meeting were appropriate for the accomplishment of the stated objectives, and that needs and concerns were satisfactorily addressed. The presentation by Dr. Berliner and the total group question/answer session were considered to be the best parts of the follow-up meeting.

Participant Concerns. As illustrated by Table 28, the most often expressed needs were for 1) additional resource materials and information on the AT process (38.89% of expressed needs), and 2) the opportunity to observe and interact with fellow faculty members and other schools within the county and between counties implementing AT (19.44%). Several LEA participants asked for help in designing dissemination strategies. Another concern was that local involvement should continue with the same energy level. Many LEA members found the AT process difficult to adapt to multi-group situations and to use in all curricula areas. Others felt that the process could inhibit teaching style and may hold back gifted and talented students.

Mastery Learning

This section describes the follow-up meeting, and presents data on attendance, participant evaluation and concerns for Mastery Learning (ML).

Table 27

Participant Ratings of SITIP Follow-Up Meetings

Item	Active Teaching	Mastery Learning	Student Team Learning #1	#2	Total*	Teaching Variables Rural	Urban	Total*	TOTAL**
Prior to attending, I understood the purpose and objective of this meeting.	3.87	4.38	4.22	4.30	4.26	4.25	4.11	4.18	4.17
Purposes and objectives were clearly presented at this meeting.	4.44	4.63	4.25	4.39	4.32	4.31	4.56	4.44	4.46
Activities were appropriate for meeting objectives.	4.30	4.59	4.19	4.33	4.26	4.15	4.63	4.39	4.39
My needs/concerns were satisfactorily addressed at this meeting.	4.30	4.14	4.06	4.17	4.12	4.42	4.25	4.34	4.34

Mean ratings can range from 1.00 (least positive) to 5.00 (most positive).

*Averaged across the follow-ups. N = 2

**Averaged across the follow-ups. N = 4

Table 28

Future Needs Expressed by Respondents
Follow-Up Feedback Forms

Needs	Active Teaching %	Mastery Learning %	Student Team Learning #1 %	Student Team Learning #2 %	Teaching Variables Rural %	Teaching Variables Urban %	Overall %
Specific "how to"s on AT	8.33						
ML		16.67					
STL				6.06			
TV					71.44	16.67	11.81
Time -- to prepare and cover content.		2.78	15.38	12.12			6.25
Opportunity to observe/ interact.	19.44	11.11	15.38	6.06		16.67	12.50
Materials, information, or money.	38.89	16.67	30.76	48.49			30.56
"How tos" to adapt to situation needs.	2.78		3.85	3.03			2.08
Local involvement (continued).	11.11	16.67		3.03			7.64
Application of new learning.	2.78	8.33					2.78
Dissemination tools.	11.11	13.89		3.03	14.28	16.67	8.33
Evaluation tools.	5.56		11.55	6.06		16.67	5.56
Ideas for next agendas.		13.89					3.48
None			23.08	12.12	14.28	33.32	9.03
	N %	N %	N %	N %	N %	N %	N %
Total responses	36 100	30 100	26 100	33 100	7 100	6 100	144 100
Total respondents	23	29	32	45	13	9	
Average number responses per respondent	1.56	1.24	.81	.73	.53	67	

Description. The follow-up was designed by the two MSDE TAs, with greatest input from the one in the Staff Development Branch. There was little local involvement in planning. The ML follow-up meeting was conducted at the Carousel in Ocean City on March 8, 9, 1982.

The agenda for day one included introductions and LEA project reports which the LEA teams had been asked by MSDE to prepare prior to the meeting. After the LEA reports, participants selected one of two concurrent sessions: teacher effectiveness/school effectiveness, or student team learning. Initial selection also determined activity for the second day.

The RBS observer attended the presentation on teacher effectiveness. The session began with a presentation by the MSDE TA of findings from various process-product research studies. Participants then answered a quiz on "characteristics of effective teachers" and discussed their responses in small groups. The session ended with a video tape made by ASCD in which researchers reviewed key findings. Participants were provided with materials on teacher effectiveness.

A social hour before and after dinner allowed participants to informally exchange information and ideas.

The second day of the conference began with the continuation of the presentations begun the day before. The session on teacher and school effectiveness included two films of Madelaine Hunter.* Each film was introduced by an MSDE TA who related the principles presented to the ML instructional process.

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*Madelaine Hunter is the principal of the "laboratory" school at UCLA.

The first film on "Motivation" was followed by a small group discussion of possible implications. The groups then shared their ideas with the other participants. The RBS observer gave an overview of the Stages of Concern (Hall and Loucks) instrument explaining how the measure identifies respondents' concerns about a given activity and how such information can be used by trainers or teachers. There was then a discussion among the participants on the relative usefulness of educational research.

The second film on "Improving Practice" was followed by a discussion of how the film could be used for inservice and the need for more focused attention to application of the principles presented in the film.

The total group reassembled for the afternoon session which consisted of a summary of the MSDE TA's own reactions to the conference activities, participants' comments, and the completion of the follow-up feedback form.

LEA Participation. The meeting was attended by 39 participants, representing MSDE (4), Johns Hopkins (1 -- presenter on STL), RBS (1), and 33 participants from five out of the six counties implementing ML as part of the SITIP project.*

As can be seen in Table 25, the majority of the participants were teachers (75.86%). The number of participants per county ranged from 5 to 10.

The number of participants by role group that attended at least three SITIP events prior to the ML follow-up meeting is also shown in Table 25. It should be noted that of the 29 survey respondents, 13 had attended at least three prior events (44.83%). Central office staff and teachers had the highest percentage of participation in earlier events. Two counties did not send any school administrators (see Table 26).

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*Howard County educators did not attend the follow-up meeting.

Participant Evaluation. In general, the participants gave favorable evaluations to the follow-up meeting (see Table 27). Mean ratings ranged from 4.63 to 4.14 with 5.00 being most positive and 1.00 being least positive. The majority of the respondents indicated that they understood the purpose and objectives of the meeting, that the activities were appropriate for the accomplishment of the stated objectives, and that the needs and concerns were satisfactorily addressed.

The LEA team presentations were considered to be the best part of the meeting.

Participant Concerns. The most often expressed needs were for 1) more information about the "nuts and bolts" of test design, correctives, and extensions (16.67% of expressed needs), 2) a "reference file" of ML information including exemplary ML classroom and inservice materials (16.67%), and 3) continued local involvement (16.67%) (see Table 28). This last represented a concern that ML should not let "fall by the wayside," but deserved continued support. Several LEA members were concerned about the amount of planning time necessary to implement the ML process.

Student Team Learning

This section describes each of the two follow-up sessions, then discusses attendance and participant evaluation and concerns for Student Team Learning (STL).

Description. At the fall planning session, MSDE TAs involved LEAs in discussing substance, process and schedules for follow-ups, then used that input to design the December follow-up. The first STL follow-up meeting was held at MSDE in Baltimore on December 1, 1981.

The morning session consisted of LEA project sharing. Before the lunch break, the TA passed out packages of STL materials to the participants.

During the afternoon session two videotapes were shown. The participants were told that they could obtain or make copies of the tapes for local inservices. The first tape was made in Prince George's County and showed TGT being used with special education and science classes. The second tape was filmed at a school in South Carolina.

After the completion of the videotapes, the topic developer from Johns Hopkins University handed out a questionnaire which he asked the participants to complete and mail back to him at their convenience. The developer then opened the discussion to questions concerning the implementation of STL.

Following the question/answer problem solving activity, the developer made a presentation on STL, emphasizing key points such as: 1) the teacher's role as facilitator instead of information giver; 2) the positive effects of team cooperation and competition on student achievement, and 3) the need for adapting STL to fit individual classroom needs.

The agenda for the April follow-up and possible school visitations were then discussed. The session was concluded with the completion of the follow-up feedback form.

The second STL follow-up meeting was made up of activities that participants had suggested in December, and was held in Hagerstown, on April 30, 1982.

The meeting was divided into two sessions. The morning session consisted of classroom observations of STL in two Washington County schools. The meeting then moved to Hagerstown Junior College where each of the LEA teams made a presentation about the progress of their project.

After lunch, one of the two topic developers from Johns Hopkins University gave a presentation about the simplicity and adaptability of STL. She highlighted the essential components of the STL strategy and emphasized how the basic components should be kept intact even if the time spent on each component may vary from class to class.

The question/answer session was followed by a presentation by the second developer about new development in STL. He explained the new individualized program that has been developed to handle heterogeneous groups in mathematics, grades two to eight, called Team Assisted Individualization.

The meeting ended with a discussion of possible events for the second year of the project and the completion of the follow-up feedback form.

LEA Participation. The December meeting was attended by 36 participants, representing MSDE (2), RBS (1), topic developers (1), and 32 LEA members from all eight of the counties implementing STL.

The April meeting was attended by 50 participants, representing MSDE (2), RBS (1), topic developers (2), and 45 LEA members from the eight counties involved in STL.

As can be seen in Table 25, the majority of local participants attending both of the STL follow-ups were teachers (78.13% and 71.11%). Table 25

also shows the number of participants that attended at least three SITIP events prior to each of the STL follow-ups. It should be noted that of the 32 LEA participants of the first follow-up, 21 had attended at least three prior events (65.62%), and of the 45 LEA participants of the second follow-up, 35 had attended at least three prior events (77.76%). Teachers at both follow-ups had the highest percentage of participation in earlier events. Sixty-seven percent of the participants at the April follow-up had attended the December meeting.

The number of participants per county ranged from two to seven at the December meeting and from two to nine at the April meeting. At both follow-ups, central office staff and school administrators were not represented in several of the counties (see Table 26).

Participant Evaluation. In general, the participants gave favorable evaluations to both follow-up meetings (see Table 27). Mean ratings for the first meeting ranged from 4.25 to 4.06, and for the second meeting from 4.17 to 1.83 with 5.00 being the most positive and 1.00 being the least positive. The majority of the respondents indicated that they understood the purpose and objectives of the meeting, that the activities were appropriate for the accomplishment of the stated objectives and that needs and concerns were satisfactorily addressed.

For the December follow-up, the sharing of local projects was considered to be the best part of the meeting. The participants at the April follow-up indicated a preference for the classroom observations of STL.

Participant Concerns. The most often expressed needs mentioned in the feedback forms from the December meeting were for 1) additional classroom

materials (30.76%), 2) time to prepare (15.38%) and 3) opportunity to observe or interact with other implementers (15.38%). The majority of LEA respondents that attended the April meeting indicated a need for classroom materials (49%) -- an increase that suggests little had been done in the interim to satisfy the need. Some LEA members found that STL lengthens the time needed to cover the curriculum. Other participants felt that STL may hold back gifted students.

Teaching Variables

This section describes each of the follow-up sessions, then discusses attendance and participant evaluation and concerns for Teaching Variables (TV).

Description. For the TV instructional strategy, two follow-up meetings were held, one for the Eastern Shore counties, and one for the counties closer to Baltimore. Both followed the same design, but each addressed needs of the participants identified from their SoCQ responses and by the MSDE TA who had attended all previous TV events. TAs reviewed tentative agendas with LEA representatives to check appropriateness of objectives and activities.

The Eastern Shore (ES) counties follow-up meeting was held at the Kent County Board of Education in Chestertown on March 4, 1982.

After introductions and a brief overview of the history of the SITIP project by the TA, each LEA team gave a brief presentation of the progress of TV in their county. The LEA presentations stimulated frequent questions and comments from the TAs, developer, expert/practitioner and LEA members. The meeting at several points turned into an open discussion/problem solving situation with active involvement by all of the participants.

During the afternoon session the topic developer from RBS addressed the questions and concerns expressed by the participants during the morning session. Some of the key points mentioned were that 1) increasing engaged time does not always result in increased student achievement, 2) the decision about whether or not to improve engaged time is a local decision, 3) teachers with high engagement rates should be sharing what they are doing with other teachers, and 4) other areas to concentrate on in addition to time-on-task might be success rate and/or curriculum alignment.

The developer then proceeded to discuss successful management strategies that teachers can use to improve engagement rate and student achievement.

The expert/practitioner* explained how her school got involved in TV and how she is using it as a teacher evaluation procedure. She emphasized that the process can and should be modified to meet individual school needs.

The meeting was adjourned after the participants completed the follow-up feedback form.

The urban follow-up meeting was held at MSDE in Baltimore on March 17, 1982. The morning session began with LEA project presentations followed by an open discussion about the following topics brought up during the presentations: methods and use of feedback, technicalities of coding, and perceptions of teachers being observed. The TA then asked the counties to discuss their plans for the second year of the SITIP project.

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*The expert/practitioner was a principal from an elementary school in Delaware where the Teaching Variable process is in its fourth year of implementation.

After lunch, the topic developers from RBS reviewed the TV framework emphasizing the five variables that have been found to impact student achievement, i.e., prior learning, curriculum alignment or content time-on-task, success rate, and quality of instruction. She also mentioned the importance of support from the principal and central office staff.

The expert/practitioner* reviewed his school's involvement with TV emphasizing how the RBS process has improved student achievement.

The meeting ended with the distribution of materials and the completion of the follow-up feedback form.

LEA Participation. The ES meeting was attended by 19 participants, representing MSDE (2), RBS (1), topic developers (1), expert/practitioner (1), and LEA members from the three ES counties implementing TV.

The urban meeting was attended by 15 participants, representing MSDE (2), RBS (1), topic developers (1), expert/practitioner (1), and ten participants from three counties.* Calvert had attended the March 4th follow-up for ES counties and had received a special invitation to attend the March 17th session in order to share with the urban group some of Calvert's activities in TV that were proving to be particularly successful. A vice-principal and teacher from Calvert who were unfamiliar with the TV process attended the March 17th meeting, using the follow-up as a training vehicle.

As can be seen in Table 25, the majority of participants (53.85%) attending the ES meeting were teachers. The majority of participants at

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*The expert/practitioner was a principal from an elementary school in New Jersey where the Teaching Variables process is in its third year of implementation.

the urban meeting were also teachers (44.44%). Table 25 also shows the number of participants that attended at least three SITIP activities prior to each of the TV follow-ups. It should be noted that of the 13 LEA respondents at the ES follow-up, ten had attended at least three prior events (76.92%), and of the nine respondents at the urban follow-up three had attended at least three prior events (33.33%). At the urban follow-up, none of the central office staff participants had been to three or more prior events. In one county, none of the participants had been to at least three previous events.

Teachers and school administrators were represented in all the counties at both meetings and only one county did not send central office staff (see Table 26). The number of participants per county was fairly equal for both meetings.

Participant Evaluation. In general, the respondents gave favorable evaluations to both the follow-up meetings (see Table 27). Mean ratings ranged from 4.63 to 4.11 with 5.00 being most positive and 1.00 being least positive. The majority of respondents indicated that they understood the purpose and objectives of the meeting, that the activities were appropriate for the accomplishment of the stated objectives, and that needs and concerns were satisfactorily addressed.

The respondents felt that the LEA presentations were the best parts of both meetings.

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*Baltimore County did not attend the meeting, informing MSDE that the school is not implementing Teaching Variables.

Participant Concerns. As shown in Table 28, the most often expressed need at both meetings was for assistance in training other faculty members or clarifying for themselves the coding procedures of the time-on-task variable (71.44% and 16.67% of expressed needs). Many of the participants expressed concerns about teachers' reactions to being observed, about how to determine an acceptable engagement rate, and what areas to concentrate on after time-on-task had been successfully increased.

Summary

This section discusses attendance patterns, presents participant evaluation comments and concerns, and summarizes similarities and differences across the follow-up sessions.

Attendance Patterns. Participation by LEA representatives ranged from nine (TV urban) to 45 (STL second meeting), with teachers always being the largest group (see Table 25). Participation of central office staff and school administrators varied by topic from an equal balance (23% and 23% respectively) for TV (ES) to a wider difference (30% and 17%) for AT.

When attendance patterns are examined by county across topics (see Table 26), it can be seen that, in general, follow-ups were attended by teams, but if one role group did not attend it was most often central office staff that were absent. Two factors appear to influence attendance patterns -- the nature of the local implementation strategy, and the extent to which the topic is "classroom contained." That is, if implementation is school-based (e.g., Montgomery County) central office staff are less likely to attend, and if the topic is readily classroom contained (e.g., STL) teachers are more likely to attend.

Table 25 shows the percentage of follow-up survey respondents by topic and by role that had attended three or more prior SITIP events ranging from 0% -- TV urban central office staff -- to 55.55% STL teachers, and with no topic total group below 33.33%. More of the teachers had attended at last three prior activities for ML, STL, and the rural TV follow-ups. For AT, more central office staff had been to three or more events, and for the urban TV follow-up, school administrators took the lead. The greater the sustained involvement, the greater the understanding of the topic and its implementation: in general, attendance patterns are satisfactory, especially when local implementation strategies are taken into account.

Participant Evaluation. Table 27 summarizes the participants' responses across all the meetings to the evaluation items on the feedback form. All of the follow-ups received positive ratings on all four of the items. Respondents indicated that the meetings had satisfactorily met the intended objectives and addressed participant needs.

The LEA team presentations were considered to be the best part of the follow-up meetings by the majority of participants. The participants at the April STL meeting enjoyed the classroom observations. The presentations by experts (e.g., Dr. Berliner at the AT follow-up) and by practitioners (e.g., the principals at the TV follow-ups) were considered to be very helpful.

Participant Concerns. Specific future needs expressed by participants are presented in Table 28. The four needs most often expressed by the participants across the follow-ups were:

- Additional information, resources, and materials pertaining to the instructional process adopted (30.56% of needs expressed), with the greatest need relating to STL.

- Opportunity to interact with or observe other individuals involved in the instructional process (12.5% of needs expressed), with most relating to AT.

- Specific "how tos" on the topic adopted (11.81% of needs expressed) with the greatest need relating to TV.

- Assistance in disseminating the instructional process to others (8.33% of needs expressed) with slightly more relating to ML than other topics.

In most cases, participants indicated that MSDE TAs should respond to expressed needs, either directly or by coordinating networking between LEAs. In a few cases, participants indicated that needs should be addressed by their own team members -- either to correct an existing situation or to plan ahead. This was most common for the concern over continued local involvement and support.

Content and Format. In general, the follow-up sessions used processes and substance that achieved the overall objective of supporting local implementation by increasing participants' expertise and confidence in the processes adopted. An analysis of activities is presented in Table 29.

The major similarities across topics were:

- In all cases, invitations, statements of session objectives, and tentative agendas were sent to participants ahead of time, and a brief "advance reading" was sent for AT.

- Exemplary resources were identified and made available, and experts (topic developers or others with expertise directly relevant to the topic) were involved in the AT, STL, and TV sessions.

- Sessions spent time on local "share and tell" presentations (50% for TV and STL, and about 30% for AT and ML) and included opportunities for question and answer and informal discussion of local activities, as well as more structured problem-solving discussions.

- Most of the time the TAs acted as facilitators, encouraging sharing, maintaining a friendly working atmosphere, and building shared commitment. (For ML one TA changed his role to trainer in conducting sessions on classroom and teacher effectiveness.)

Table 29

Teaching/Learning Activities of Follow-Ups (1981-82)

Topics / Activities	AT	ML	STL1	STL2	TV_R	TV_U
On Topic						
Developer presentation			X	X	X	X
Practitioner presentation (out of state expert)					X	X
Video presentation			X			
LEA "share and tell"	X	X	X	X	X	X
Total group discussion	X	X	X	X	X	X
Small group discussion	X					
Class observation				X		
"Handouts" provided	X	X	X	X	X	X
Other						
Presentation on process-product research						
- by researcher	X					
- by TA		X				
- by videotape	X	X				
Presentation on instruction						
- by videotape		X				
Presentation on other SITIP topic						
- by developer		X				
Presentation on evaluation						
- by TA	X					
"Handouts" provided	X	X				

- Participants at all sessions demonstrated a positive problem-solving orientation.

The major differences between topic follow-up sessions were:

- Frequency and time -- each LEA TV team participated in a one-day session; each STL team participated in two separate one-day sessions; AT teams spent a day and a half in a "retreat;" ML teams spent two days in a "retreat."

- Teaching/learning -- while all follow-ups included LEA "share and tell" sessions and total group discussions relating to topic implementation, there were differences in content focus and the trainer role. STL and TV follow-ups placed the greatest emphasis on the given topic; ML activities were least related to the topic.

In summary, the follow-up meetings were perceived by participants to have fulfilled the stated objectives, and satisfactorily addressed their needs and concerns. The LEA teams came prepared to share their successes and to present their problems honestly and with a problem-solving orientation. The MSDE TAs usually acted as facilitators rather than as solution givers.

Summary and Conclusions -- Training

Formal training events initiated by MSDF included four Awareness Conferences, four Summer Institutes, and six Follow-up Sessions between December 1980 and May 1982 designed to provide information about four instructional processes -- Active Teaching (AT), Mastery Learning (ML), Student Team Learning (STL), and Teaching Variables (TV) -- and to assist local educators using one or more of the processes.

Evaluation questions addressed, which were common to all events, included:

- What happened -- substance and process -- at each event?

- Who attended (by role, by county) the events?

- How did participants evaluate the events?
- What concerns or needs did participants express?
- What relationships existed between training events and between training events and planning and implementation?

Each of these questions has been discussed for each kind of training event in preceding sections of this chapter. The narrative that follows summarizes similarities and differences across events for each of the five questions posed.

Substance and Process

Developers of the four processes and/or expert practitioners conducted training sessions at all events except two -- the Mastery Learning and Active Teaching Follow-up Sessions. This expertise was often supported with advance reading materials (all Awareness Conferences and the AT Follow-up), use of video tapes on the topic (with the exception of ML), and provision of handout materials during the sessions.

All training events (with the exception of the AT and ML Follow-ups) included presentations on the given process to the total group of participants, and all also provided opportunities for question/answer sessions attended by the total group.

There were three kinds of small group activities:

- Structured concurrent sessions in which participants remained with a particular group for a "track" were used in the STL and TV Awareness Conferences, and in ML and TV Summer Institutes with both groups receiving similar "hands-on" training, and in the ML Follow-up when the two groups received different training (one on STL and the other on classroom effectiveness).
- Structured discussion groups with MSDE staff acting as facilitators were used in the AT and ML Awareness Conferences.
- Small group discussions with group-selected leaders were used at the AT and STL Summer Institutes and the AT and ML Follow-ups.

Local "share and tell" sessions were held at all Follow-ups and at the AT and STL Summer Institutes. In addition, for the second STL Follow-up, participants observed the process in classrooms. MSDE staff organized all training events, sent out advance materials including draft agendas and meeting objectives, introduced speakers and served as group facilitators. In the ML Follow-up, MSDE staff conducted the classroom effectiveness session, and at the AT Follow-up MSDE staff conducted a brief session (with handouts) on program management and evaluation.

Attendance

In keeping with recommendations in the literature of planned change, MSDE encouraged participation of cross-hierarchical teams from each LEA. At the beginning of the project, the composition of the ideal team with suggested role responsibilities was specified by MSDE, and the LEA superintendents agreed to try to meet those recommendations by sending appropriate staff (especially teachers, principals, and central office staff). Extensive attendance data were collected at each event and have been discussed. (See Tables 6, 7, 14, 15, 25, and 26.)

Of the 195 active implementers surveyed (June 1982) who attended training, approximately 70% were teachers, the rest about evenly representing central office staff and school administrators.* This distribution was repeated for each topic although a greater percentage of teachers attended TV events. Awareness Conferences were attended by between 33% (ML) and 40% (TV) of the active implementers, with central office staff

*Data are not available for one AT county.

best represented for TV, school administrators for AT, and teachers for ML and STL. Summer Institutes were attended by between 33% (ML) and 78% (TV) of the active implementers, with teachers best represented in all cases Follow-ups were attended by between 42% (ML) and 66% (TV) of the active implementers, with teachers best represented for all topics.

Between 10% (ML) and 26% (TV) of the active implementers had attended all three training events relating to the topic being used. Between 13% (AT) and 38% (STL) had attended two events, and between 17% (STL) and 41% (AT) had attended one event.

These data indicate that for each topic a corps of local educators participated in training, with over 50% attending two or more training events and sustaining involvement through implementation. Data also indicate that those attending MSDE training events trained others who subsequently implemented the topic(s).

Central office staff attending the Awareness Conferences made up over 50% of participants at each conference and included superintendents, assistant superintendents, and supervisors. In most cases, the first two role groups did not continue involvement: once a topic was selected each LEA tended to assign a single central office person -- usually a supervisor -- as administrative coordinator. The 31 actively involved central office staff survey respondents (across all topics) made up 15.05% of trainees, with about a third attending all three events, a third attending two events, and a third attending one; the Awareness Conferences drawing most of them. Central office trainees equalled or exceeded school administrator trainees for all topics, being most highly represented for TV (22.22%) and

least represented for ML (10.67%). The two counties not represented by central office staff at any Awareness Conference did send representatives to subsequent training events. One county sent no central office staff to Summer Institutes nor to the related Follow-up (STL). Four other counties sent no central office staff to Summer Institutes but did send representatives to the Follow-ups. Lack of central office attendance was sometimes perceived by other local educators as evidence of lack of support for the project. In a few cases, when the local strategy was not a "lighthouse school" with school-based project coordination, central office staff needed to "catch-up" by talking with MSDE TAs or school staff.

School administrators attending the Awareness Conferences made up between 15.71% and 18.42% of the participants of each conference. The 29 actively involved implementers made up 14.08% of trainees, with about half of them attending all three training events. The county not represented by school administrators at the Awareness Conferences did send them to the appropriate Summer Institute and Follow-up (TV). Three counties not represented by school administrators at Summer Institutes did send them to the appropriate Follow-ups (AT, STL, TV), but two counties did not send school administrators to the Summer Institute or the Follow-ups (STL).

Teachers attending the Awareness Conferences made up between 20.18% and 24.56% of the audience at each conference. Four counties did not sent teachers to Awareness Conferences at all, and one LEA did not send teachers to the conference on the topic selected for implementation (STL). With one exception (AT Follow-up) all other training events were attended by teachers from counties involved in the given topic(s). Although teachers made up

70.87% of all trainees, less than 11% of them attended all three training events and about 27% of them attended two events.

The team approach for training was successful in that the "bundle of sticks" was stronger than a "single branch" in building local knowledge and encouraging trainers to attend to implementation concerns of each role group. Overall attendance -- numbers, roles, and sustained participation -- was good. As more turnkey training occurs (for local dissemination) and current implementers' initial enthusiasm levels off, the knowledge and support of central office staff and school administrators will become more crucial -- especially for those STL counties with relatively low attendance for those two role groups.

Participant Evaluation

Standard evaluation forms were used at all training events, and mean ratings analyzed on four criteria using a five-point scale, with five as most positive (see Table 30). In general, participants understood objectives prior to attending an event, with the greatest overall clarity for STL and the least for TV. Presentation of objectives at the events was rated highest by STL participants, and lowest for AT. The extent to which training activities supported the stated objectives was perceived as ranging from a low of 3.64 (AT) to a high of 4.44 (STL). The criterion relating to participants' needs and concerns had different meanings for each kind of training event: readiness to select a topic and write a proposal following the Awareness Conferences, readiness to implement the selected topic as a result of the Summer Institutes, and a more general

Table 30

Participants' Ratings of Training Events**
(Means for Four Criteria)

Item \ Topic / Event*	Active Teaching			Mastery Learning			Student Team Learning			Teaching Variables		
	AC N=114	SI N=29	FU N=28	AC N=140	SI N=26	FU N=33	AC N=114	SI N=39	FU N=45	AC N=113	SI N=31	FU N=24
Prior to attending, I understood the objectives of the meeting.	4.18	4.04	3.87	4.08	4.25	4.38	4.53	4.15	4.26	4.12	3.34	4.18
		4.11			4.15			4.39			3.98	
Objectives were clearly presented at the meeting.	3.59	3.59	4.44	3.85	4.78	4.63	4.60	4.80	4.32	4.03	3.47	4.44
		3.73			4.10			4.58			3.99	
Activities were appropriate for objectives.	3.57	3.27	4.30	3.82	4.58	4.59	4.45	4.63	4.26	3.78	3.09	4.39
		3.64			4.05			4.44			3.74	
My needs/concerns were satisfactorily addressed.	3.37	4.16	4.30	3.[illegible]4	4.24	4.14	4.26	4.36	4.12	3.8	3.44	4.34
		3.66			3.73			4.25			3.81	

** Mean ratings can vary from a high of 5.00 to a low of 1.00.

* Events: AC = awareness conference
SI = summer institute
FU = follow-up sessions

reassurance and confidence as a result of the Follow-ups. Overall mean ratings were highest for STL (4.25) and lowest for AT (3.66).

For STL events, all criteria were rated at 4.12 or above, with that score relating to partly unsatisfied needs (for classroom materials) at the Follow-ups. Overall mean ratings ranged from 4.25 to 4.58. These ratings, combined with observers' notes and MSDE TA records, indicate that STL training was of a consistently high quality, with content and processes appropriate to participant needs at the time. Two factors contribute to this: 1) the expertise and experience of the topic developers who worked in teams using various strategies (simulation, videotapes, handouts, etc.) to conduct training, and 2) the way in which the MSDE TAs involved LEAs in planning and were responsive to their ideas and needs for the training events.

Mastery Learning overall ratings range from 3.73 to 4.51, with the lowest criterion rating being 3.54 (when participants left Awareness Conferences doubtful as to whether they understood ML well enough to write proposals). Probably the weakest factor in ML training was Bloom's presentation which was of general educational interest but did not clarify the ML process in practical terms. Positive factors included the expertise of the Summer Institute trainers, and the belief by local participants that ML was worth learning and implementing.

The overall ratings for TV and AT are very close, but the former has a slightly better average, with overall scores ranging from 3.74 to 3.98. The lowest criterion rating for TV (3.09) was assigned to the activities of the Summer Institute which required intensive work and use of a large

amount of material. Factors causing negative reactions to TV training relate to the time-on-task analysis procedures and the difficulty participants had in determining how use of the topic improves instruction. The strongest positive factor in TV training was evidenced by the marked increase in mean ratings for Follow-ups which suggested that the trainers at those events were more successful. This was probably influenced by participatory planning between trainers and MSDE TAs referring to local needs and concerns.

For AT, overall mean ratings ranged from 3.64 to 4.11. The lowest criterion rating was 3.26 for Summer Institutes activities which were overly theoretical. This weakness -- emphasis on research rather than practice -- was the strongest negative factor in AT training. Ratings improved for the Follow-up -- influenced by the expertise of the presenter and the overall design (by MSDE TAs) of the event.

Participant Needs and Concerns

Participant needs and concerns are examined from three perspectives:

- Before a training event, what did participants want to get out of it, and did they share their ideas with MSDE staff designing the event?
- During the event, did activities address participants' needs at that time?
- What future needs were expressed by participants -- to be satisfied by various means?

Beforehand. The overall SITIP plan was designed by MSDE staff and reviewed by LEA superintendents before formal invitations were issued. Topics and presenters of the Awareness Conferences were determined by MSDE staff who subsequently negotiated with developer/presenters about actual

training activities. For the Awareness Conferences, general approval was given beforehand in the sense that 20 LEA superintendents agreed to send representative teams. Individual participants did not influence the design.

Participants did have the opportunity to influence the Summer Institutes since teams were invited to the intended sites for planning meetings.* Through small group activities and discussion, participants clarified their concerns and indicated specific expectations for the Summer Institutes. They appreciated this opportunity and in general expressed satisfaction with the planning event. These data, plus the SoCQ data collected after the Awareness Conferences, were shared by MSDE staff with the presenters so that appropriate summer training could be designed.

Local input into Follow-ups varied. All MSDE staff involved had SoCQ data from the Summer Institutes, copies of local plans, and opportunities to talk with participants as a total group and within their own counties. However, Follow-ups were perceived to serve different purposes by different people which influenced scheduling (determined by participants in September 1981), and -- to some extent -- design and extent of local influence. For instance, STL participants focused on the "nuts and bolts" of the process and scheduled two Follow-ups (December 1981 and April 1982), with the MSDE TA functioning as a coordinator responding to LEA needs. For the other three topics, participants scheduled spring 1982 Follow-ups arguing that by then they would have "got their feet wet" and be ready to problem-solve

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*See chapter on planning of this report.

or refine according to their experience. For these topics, MSDE TAs initiated Follow-up designs, inviting local input to varying degrees (TV most and ML least). All shared tentative agendas ahead of time so that local participants could have initiated changes if they wished.

During the Event. Awareness Conference participants were unsure that their needs were met. Although, in general, they found the information and activities interesting, they did not -- as a result -- consider themselves ready to use the information. Of the four topics, STL was considered most satisfactory, and AT was least satisfactory. In general, SoCQ data supported these findings, indicating that participants were willing to attend to more information but had no real sense of involvement.

Summer Institutes (with the exception of TV) were better than Awareness Conferences in meeting participant needs. Needs identified at the planning session were adequately addressed for STL and ML but not for AT and TV, and in the latter case, participants were also unsure that sufficient attention had been paid to individual districts. However, for all topics participants were relatively confident that they could implement their plans. The SoCQ supported these findings indicating that, in general, the training had provided needed information and reduced participants' personal concerns.

All Follow-ups received mean ratings above 4.12 (on a five-point scale) in relation to satisfaction with attention to participant needs, indicating high success. Marked improvements were apparent for AT (4.30) and TV (4.34), with decreases experienced for the other two topics. Participants did not complete SoC questionnaires after the Follow-ups, but analysis of observers' notes suggests that, in general, high points related to collaboration (interest in what others were doing on the topic) and

management (logistical issues, availability of materials). In a few cases (e.g , some AT sites and some TV sites) teachers had personal concerns, and in some ML and STL sites, implementers were more interested in consequences -- impact on students of the topic.

Future Needs. After the Awareness Conferences, LEA participant teams were expected to write proposals outlining implementation plans. All sources of data indicated that, in general, participants could not carry out the task well since they needed more information about the topic(s) and how to bring about planned change. These needs were satisfied in three ways: 1) MSDE staff were assigned (by topic) to assist LEA planning on request; 2) at the spring (1981) planning session, participants not only planned the Summer Institutes but also clarified their own plans; and 3) LEAs were permitted to revise their plans in the fall (1981) based on their experience at the summer training.

After the Summer Institutes needs were specific to topics and role groups and influenced by the nature of local plans. In general, teachers needed support and reassurance; principals needed to know what others were doing, and, for TV and AT, were thinking of revising their plans. The fall (1981) planning session provided an opportunity for revision of plans, and MSDE TAs offered to assist LEAs in implementation throughout the year.

Future needs were expressed by Follow-up participants on the feedback forms (see Table 28) and during the event itself. Information about the topic, classroom materials, and continued financial support made up the most common group of needs, followed by opportunity to observe classroom use and interact with other implementers, and then by specific "how tos" on

the topic being implemented. Together, these needs made up more than 50% of those expressed, and crossed all four topics. With the exception of classroom materials, all needs were addressed to some extent by MSDE TAs working with LEAs. The need for classroom materials (STL) was to have been addressed in part by the developers but delays occurred.

Probably the most serious needs existing by the end of the 1981-82 school year (the first year of implementation) relate to concrete knowledge of the topic (TV, and to some extent, ML) and how it should be implemented. Some of this need relates to the complexity of the topic,* since TV and ML are much more complex than STL or AT. Some relates to the nature and extent of training: TV training, especially the crucial Summer Institute, was not rated as highly as others on most criteria; ML Awareness training was not as informative as was needed and the Follow-up did not provide any training directly related to the topic.

Relationships of Training to Planning and Implementation

To some extent, the foregoing narrative discusses relationships. Of particular interest is the extent to which training events impacted planning and implementation:

- The Awareness Conferences provided a knowledge base which determined topic and site selection.
- Summer Institutes provided information, demonstration, and practice sufficient for most participants to implement the topics selected or provide training for other implementers, and for participants to clarify their own plans. (Four counties -- at first planning to implement two or more topics -- later dropped TV.)

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*Complexity is discussed at the beginning of the chapter on implementation. In order of least complexity topics rank: AT, STL, ML, and TV.

- Follow-ups provided information, opportunity for implementers to network, and in some cases (STL and TV) feedback and coaching from developers to implementers.

- The overall design, team attendance patterns, and time frame, together with gradually improved MSDE/LEA communication through MSDE TAs were perceived by participants as very good to excellent. There is no doubt that the SITIP training design has contributed in a high degree of implementation much of which is "high fidelity" (i.e., as intended by the developer).

- No single type of training event was "better" than another since each served a different purpose. Together the series of training events provided a sound knowledge base and appropriate support for local implementation.

V. LOCAL PLANS AND PLANNING

Local school systems interested in participating in the SITIP program were asked by MSDE to develop plans and attend planning sessions. Specifically, LEAs were asked to:

- develop proposals identifying the SITIP topic(s) to be implemented and describing how and why implementation was to be done (spring 1981)
- attend planning sessions for topics to be implemented to review implementation plans and training needs (spring 1981)
- attend a general planning session to clarify or revise implementation plans and review technical assistance needs (fall 1981)
- develop standardized summaries of final plans (winter 1981-82).

This chapter describes those activities, analyzes the plans developed, and discusses changes made to local plans.

Analysis of SITIP Proposals

School districts were asked to prepare non-competitive proposals for local adoption and implementation of SITIP instructional strategies in the beginning of February 1981. Districts were provided with proposal development guidelines that contained eight issues to be addressed in the local school district submissions:

- deciding factors in selection of SITIP schools
- deciding factors in selection of SITIP curriculum areas
- deciding factors in selection of SITIP school improvement strategies
- evaluation criteria to assess improvement at end of SITIP
- analysis of Year 1 implementation tasks

- progress monitoring procedures
- dissemination procedures for Year 1 results
- budget.

Proposals were submitted to MSDE by 19 districts by mid-April. All districts applying for SITIP funds were awarded monies for local projects. Table 31 presents basic descriptive data on the individual SITIP projects funded by MSDE. Twelve of the 19 districts (63.15 percent) elected to implement only one of the four instructional processes; the remaining seven districts (36.85 percent) decided on combinations of two or three of the instructional processes. The most selected instructional processes were Teaching Variables (47.37 percent) and Student Team Learning (42.11 percent). Districts proposed adoption and implementation at all grade levels and curriculum areas with a focus on basic skills development.

The proposals, in general, were written at a fairly global and non-specific level, most likely reflecting the lack of sufficient information at the local level concerning the selected instructional process. Four criteria were specifically selected for the content analysis: the deciding factors involved in the local districts' selection of schools, the curriculum areas selected by the schools, the school improvement strategies selected by the schools, and the criteria identified by districts for the evaluation of their SITIP projects

Selection at Schools

Nine criteria were identified by local school districts as influential in their selection of schools as sites for SITIP adoption and implementation. Criteria identified by each district are summarized in Table 32.

Table 31

Characteristics of SITIP Proposals
(Spring 1981)

School District	SITIP*	Curriculum Thrust	Grade Levels
Allegany County	ML	All	K-12
Anne Arundel County	ML	Biology	9
Baltimore City	ML	All	10-12
Baltimore County	ML-STL-TV	Basic Skills	3-7
Calvert County	STL-TV	Basic Skills	6-8
Cecil County	AT-TV	Lang. Arts, Math	4,7
Charles County	STL	All	6-8
Frederic County	TV	All Basic Acad.	K-12
Garrett County	AT	Lang. Arts, Math, Science	9-12
Harford County	AT-TV	Basic Skills	1-8
Howard County	ML-TV	Reading & Social Studies	6-8
Kent County	TV	Math, Reading, Writing	All
Montgomery County	STL-AT-TV	All Basic Acad.	1-9
Prince George's County	STL	Lang. Arts, Math, Science & Nutrition	4-6
Queen Anne's County	STL	All	9-12
St. Mary's County	AT	All Basic Acad.	9-12
Somerset County	TV	Math & Reading	K-3
Washington County	STL	Unrestricted	1-8
Worcester County	ML-STL	Basic Skills	K-5

*Key: ML = Mastery Learning
AT = Active Teaching
STL = Student Team Learning
TV = Teaching Variables

Table 32

Deciding Factors in School Selection

School District	SITIP[1]	Staff Commitment	Participation in Awareness Conference	School Already Involved	Identified School Need	Community Support	Availability of Resources	Context	Potential for Dissemination	Research Potential
Allegany County	ML	X					X			X
Anne Arundel County	ML	X						X[3]		X
Baltimore City	ML	X				X		X[4]	X	X
Baltimore County	ML-STL-TV	X								
Calvert County	STL-TV	X			X					
Cecil County	AT-TV								X	
Charles County	STL						X	X[5]		
Frederick County	TV	X	X							
Garrett County	AT				X			X[3]		
Harford County	TV-AT	X								
Howard County	ML-TV	X								
Kent County[2]	TV									
Montgomery County	STL-AT-TV	X	X					X[4]		
Prince George's County	STL								X	
Queen Anne's County	STL									
St. Mary's County	AT	X			X			X[4]		
Somerset County	TV	X					X			
Washington County	STL	X	X	X					X	
Worcester County	ML-STL	X						X		

1 The awareness session topics have been abbreviated as follows: Mastery Learning=ML, Student Team Learning=STL, Active Teaching=AT, and Teaching Variables=TV.
2 No school selected.
3 Largest school in county.
4 Great diversity of student population.
5 Fits well with existing school program.

Approximately two-thirds of the districts (68.42 percent) selected schools in which to implement SITIP on the basis of staff commitment. A third of the districts (36.84 percent) considered particular features or characteristics of individual schools (context). Other factors included the school's participation in the awareness conferences (15.79 percent); the relevance of the selected SITIP instructional improvement process(es) to identified needs of a school in their district (15.79 percent); availability of necessary resources in the school (15.79 percent); and the potential for research or dissemination in the selected school (31.58 percent).

Selection at Curriculum Areas

Seven factors were identified by school districts in their selection of curriculum areas to be included in the SITIP instructional program; these are presented in Table 33. Over two-fifths of the districts (42.11 percent) indicated that their selection was influenced by the district's identification of student needs in particular curriculum areas. Staff interest and availability contributed to the selection of curriculum areas in approximately one-fourth of the districts (26.32 percent). Other factors identified by districts included: original SITIP presentation at the awareness conference addressed the selected curriculum area (15.79 percent); the incompleteness of available research in selected curriculum area (5.26 percent); the compatibility of the selected curriculum area with the chosen SITIP instructional process (10.53 percent); and characteristics of the curriculum area organization in the selected school (10.53 percent).

Table 33

Selection of Curriculum Areas

School District	SITIP[1]	Presented in Curriculum Area	Research Incomplete in Curriculum Area	Identified Student Needs in Curriculum Area	Staff Interest and Availability	Compatability with Curriculum Area	Curriculum Area Organizational Characteristics
Allegany County	ML	X					
Anne Arundel County	ML		X			X	X
Baltimore City	ML				X		
Baltimore County[2]	ML-STL-TV			X	X		
Calvert County	STL-TV			X			
Cecil County	AT-TV	X					
Charles County[2]	STL				X	X	
Frederick County	TV			X	X		
Garrett County	AT						
Harford County[2]	TV-AT			X	X		
Howard County	ML-TV			X			
Kent County	TV	X		X			
Montgomery County	STL-AT-TV						
Prince George's County[2]	STL						
Queen Anne's County[2]	STL						X[3]
St. Mary's County	AT			X			
Somerset County	TV						
Washington County[2]	STL			X			
Worcester County	ML-STL						

1 The awareness session topics have been abbreviated as follows: Mastery Learning-ML, Student Team Learning-STL, Active Teaching-AT, and Teaching Variables-TV

2 No curriculum areas selected

3 Size of curriculum department

Implementation Strategies

The strategies selected by the 19 districts are summarized in Table 34. Two-thirds of the districts (68.42 percent) indicated that they planned to employ a lighthouse school strategy by implementing the SITIP instructional process in only one school and then disseminating the results informally at routine district meetings. Two of the districts (10.53 percent) planned to adopt a feeder school strategy in which the students enrolled in SITIP classrooms at the first school would be followed into a second school as they progressed to higher grade levels thus allowing for some assessment of the long-term impact of the SITIP program. Two other districts (10.53 percent) selected a capacity building strategy by providing for a team of staff trained in the SITIP instructional improvement process to provide some form of inservice or professional development to other staff within a number of schools within the single district. This is similar to the training of trainers paradigm. A pilot school/district strategy was selected by the remaining two districts (10.53 percent). In this implementation strategy, the topic would be tested in one or more pilot schools and, if it was successful, central office staff would then actively disseminate it to other schools. One LEA did not specify a strategy. The focus was clearly on limited implementation and not on dissemination of the instructional process throughout the entire district.

Evaluation Procedures

The procedures selected by the individual districts are summarized in Table 35. Building principal or central office supervisors' evaluation (verification/observation) of the SITIP implementation (60.42 percent) and standardized testing designs (63.16 percent) were the most commonly

Table 34

Implementation Strategies
(May 1981)

School District	SITIP[1]	Lighthouse School	Feeder School	Building District Capacity	Pilot District
Allegany County	ML	X			
Anne Arundel County	ML	X[2]			
Baltimore City	ML				X
Baltimore County	ML-STL-TV	X			
Calvert County	STL-TV	X			X
Cecil County	AT-TV	X[2]			
Charles County	STL	X			
Frederick County	TV	X[2]			
Garrett County	AT	X			
Harford County	TV-AT				
Howard County	ML-TV	X[2]			
Kent County	TV			X	
Montomery County	STL-AT-TV	X[2]			
Prince George's County	STL			X	
Queen Anne's County	STL	X			
St. Mary's County	AT	X[2]			
Somerset County	TV	X[2]			
Washington County	STL		X		
Worcester County	ML-STL		X		

[1] The topics have been abbreviated as follows: Active Teaching = AT, Mastery Learning = ML, Student Team Learning = STL, and Teaching Variables = TV

[2] P school will make informal presentations to other schools.

Table 35

Proposed Evaluation Procedures
(May 1981)

LEA	Topic[1]	Standardized Testing	Teacher Testing	SURVEY REACTIONS			Verification/ Monitoring	Routine Documentation	Other
				Teacher	Student	Parent/Community			
Allegany	ML	X[2]		X	X	X	X	X	
Anne Arundel	ML	X		X					X[3]
Baltimore City	ML		X	X			X		
Baltimore Co.	ML-STL-TV	X							4
Calvert	STL-TV	X	X					X	X[5,6]
Cecil	AT-TV	X		X			X		X[3]
Charles	STL	X	X		X		X		X[7]
Frederick	TV						X		
Garrett	AT	X	X		X	X	X		X[3,7]
Harford	TV								X[5]
Howard	ML-TV	X	X					X	X[5]
Kent	TV	X					X	X	
Montgomery	ML-STL-TV	X		X	X		X	X	X[5]
Prince George's	STL						X	X	X[8]
Queen Anne's	STL						X		
St. Mary's	AT	X					X	X	X[7]
Somerset	TV			X				X	X[5]
Washington	STL	X		X	X		X		X[6,9]
Worcester	ML-STL			X	X		X		

1. The topics are abbreviated as follows: (1) Active Teaching = AT, (2) Mastery Learning = ML, (3) Student Team Learning = STL, and (4) Teaching Variables = TV.
2. Project Basic assessment.
3. Observations by MSDE staff.
4. Third party evaluation.
5. Analysis of time-on-task data.
6. Analysis of dissemination.
7. Analysis of absenteeism/discipline.
8. Analysis of curriculum revisions.
9. Analysis of SITIP implementations.
10. No evaluation design.

identified SITIP evaluation procedures. Other techniques include surveys of teaching staff (42.11 percent), progress update meetings or reports (42.11 percent), surveys of participating students (31.58 percent), teacher-constructed testing of student performance (26.32 percent), analysis of various student indices such as attendance, discipline referrals, or grades (15.79 percent), and parent or community surveys (10.53 percent). Approximately two-thirds of the districts (62.50 percent) proposing to implement the Teaching Variables SITIP instructional process plan to examine changes in time-on-task data.

Summary

The above analyses provide some useful insight into the local school districts' reaction and response to the SITIP program. Of particular interest is the overwhelming number of the local school districts that adopted a lighthouse school strategy for implemention. Only a few of the participating districts elected to adopt a multi-school strategy for implementing SITIP. This collective decision to rely largely on single school implementation strategies suggested a limit to the potential dissemination of the SITIP instructional improvement strategies and the overall success of SITIP in effecting school improvement throughout Maryland.

Spring Planning Sessions (1981)

According to the state plan, districts submitting proposals on implementation of the instructional improvement processes, were to participate in a one-day planning conference to be held during May 1981, which was related to their chosen proposal topic(s).

The planning sessions were organized by MSDE to address the following questions:

- Where are the participants in terms of their understanding of the topic?
- What additional information do participants hope to gain from the summer institute?
- What problems are anticipated in implementing the selected strategy?
- What knowledge and skills do participants want to take back to their schools at the end of the summer institute?

A separate planning conference was held for each of the four school improvement instructional processes. Participating LEAs were asked to send personnel to the planning conferences who had attended the awareness sessions and would attend the summer institutes. Ideally, the teams were to consist of the following members:

- central office instructional leader
- principal
- two teachers from the same school.

In order to determine the extent to which the counties had sent appropriate LEA teams, attendance was to be recorded at each of the four planning sessions. Complete attendance data, however, were not returned for the Active Teaching and Teaching Variables planning sessions.

Attendance at Planning Sessions

Table 36 summarizes the attendance patterns of participants, by county, at the Mastery Learning and Student Team Learning planning sessions. The table indicates that two out of the six counties that attended the Mastery Learning planning session sent the recommended team of participants

Table 36

Participant Groups Attending Planning Sessions
(Spring, 1981)

District	Mastery Learning	Student Team Learning
Allegany County	1, 4	-
Anne Arundel County	1, 2	-
Baltimore City	1, 2, 4, 5	-
Baltimore County	1, 2	1, 2
Calvert County	-	1
Cecil County	-	-
Charles County	-	1, 2
Frederick County	-	-
Garrett County	-	-
Harford County	-	-
Howard County	1	-
Kent County	-	-
Montgomery County	-	1
Prince George's County	-	-
Queen Anne's County	-	1,2
St. Mary's County	-	-
Somerset County	-	-
Talbot County	-	-
Washington County	-	1, 4
Worcester County	1	1, 2, 4

1 Teachers
2 Principals
3 LEA Board Members
4 Central Office Supervisors
5 LEA Assistant Superintendent
6 LEA Superintendent

to the session, i.e., at least one teacher, principal and central office supervisor were present. All counties sent at least one teacher, three out of six counties sent principals, and two out of six sent central office staff. For the Student Team Learning planning session, only one out of seven counties sent the recommended group participants. All districts sent at least one teacher, four out of seven counties sent principals, and two out of seven sent central office staff.

Attendance at Earlier SITIP Activities

A cross-tabulation analysis of attendance at awareness conferences and planning sessions was done to determine the frequency with which people attended the planning session and the related awareness conference. Table 37 presents these results. Of those attending the Mastery Learning planning session, 56 percent also attended the related awareness conference. Eighty-eight percent of those who attended the Student Team Learning planning session also attended the related awareness session, and an additional six percent had attended some of the awareness conferences though they were not related to Student Team Learning. Participants of the Active Teaching planning session had sent 94 percent of its members to the Active Teaching awareness session. Of those participating in the Teaching Variables planning session, 77 percent had also attended the related awareness conference.

This analysis of attendance at awareness conferences and planning sessions reveals that Student Team Learning and Active Teaching participants, in particular, demonstrated a high degree of follow-up in terms of commitment to the SITIP program. Approximately 90 percent of these

Table 37

Attendance at Planning Sessions and Awareness Conferences

Planning Session / Awareness Conference	Mastery Learning (27)[1] N	%	Student Team Learning[2] (32)[1] N	%	Active Teaching (18)[1] N	%	Teaching Variables (35)[1] N	%
Mastery Learning	15	55.56	12	37.50	6	33.33	4	11.43
Active Teaching	8	29.63	11	34.38	17	94.44	5	14.28
Student Team Learning	9	33.33	28	87.50	5	27.78	3	8.57
Teaching Variables	9	33.33	12	37.50	6	33.33	27	77.14
None	12	44.44	2	6.25	1	5.56	8	22.86

[1] Number of total participants at planning conference

[2] Two participants of the Student Team Learning planning session attended awareness conferences other than the one on Student Team Learning

participants attended both the awareness conference and the planning session as recommended.

Spring Planning Sessions Activities

The SITIP planning sessions were scheduled on four consecutive days during the first week in May to determine the summer institute training agendas. A separate planning session was held at the site of its summer institute for each of the four instructional processes. The participant group at the four planning sessions consisted of LEA personnel who would be involved in the implementation of that particular instructional process at their school districts. LEAs that submitted SITIP proposals to implement more than one instructional process attended all appropriate planning sessions. Planning sessions were directed by MSDE staff that had responsibility for organizing and directing the summer institutes; the actual SITIP training consultants did not attend the planning sessions.

All four planning sessions followed the same basic four hour agenda. Planning session participants were first introduced to each other and asked to give a brief summary of their LEA proposed SITIP project (e.g., rationale, target school and student population). Following these introductions, the MSDF leader briefly reviewed the Maryland Professional Development Academy training model employed by the SITIP training program. the four SITIP school improvement instructional processes, and the objectives of the Summer Institutes. These first activities generally required about 20 minutes to complete.

The remainder of each planning session was devoted to three small group activities each of which took 45 to 60 minutes. In the first

activity, LEA staff were divided into groups according to job functions (i.e., central office administration, principals, and classroom teachers). Groups were asked to discuss and list on newsprint information they had on that particular topic and then to share their lists with each other. This activity was designed to assess the LEA knowledge base on the topic to be implemented; the results were used to determine the amount of review required in the subsequent Summer Institute training. This activity was not conducted as a small group activity in the Mastery Learning planning sessions because of the relatively small size of the group and the apparent confusion over the subject area.

In the second small group activity, LEA staff were asked to identify and list on newsprint their concerns, problems, and questions related to the particular instructional process. As in the first activity, LEA staff were divided into groups according to their job functions. Each group then shared their list with the other planning session groups. These lists were also shared at a later date with the SITIP consultants in order to insure that LEA concerns were addressed during the summer institutes.

In the last group activity, LEA staff were asked to list their expectations for the summer institutes. Expectations were defined in terms of knowledge or skills they wished to obtain. Unlike the first two activities, the planning session participants were grouped by LEA for this last activity. Each list of expectations was first shared with the other planning session groups and then later, shared with the SITIP consultants in order to insure the appropriateness of the summer institutes.

Participant Evaluation of Planning Sessions

As part of the evaluation of the four planning sessions, participants were asked to complete a standard evaluation form at the close of each session. The instrument was designed to determine the effectiveness of each of the four planning sessions by having participants rate the degree to which they agreed or disagreed with a list of six statements related to adequacy of the sessions.

Ratings ranged from a high of 5.00 indicating "Strongly Agree" to a low of 1.00 indicating "Strongly Disagree." The mean SITIP participant ratings for each of the four conferences are presented in Table 38.

Mastery Learning. The mean ratings of participants attending the planning session on Mastery Learning ranged from a high of 4.70 to a low of 4.15. These ratings generally indicated that the planning session was very effective. Participants understood the objectives of the session and felt they were clearly presented. Adequate information was provided to participants about the SITIP activities. There was sufficient opportunity for people to share their concerns about the topic and to indicate what they wished to gain from the summer institute. Participants considered the session facilities to be satisfactory.

Student Team Learning. Participant mean ratings of the Student Team Learning planning session ranged from a high of 4.88 to a low of 3.88. Overall, participants were well satisfied with the planning session. The item dealing with understanding the objectives of the session prior to attending received the lowest mean rating. The mean ratings of all other items were greater than 4.00 indicating a high degree of participant satisfaction with the planning session.

Table 38

Participant Ratings of Spring Planning Sessions*

Item	Mastery Learning	Student Team Learning	Active Teaching	Teaching Variables
1. Prior to attending, I understood the purpose and objectives of the planning session.	4.48	3.88	3.39	3.14
2. The purpose of the planning session was clearly presented.	4.50	4.53	4.28	3.71
3. Adequate information was provided about the SITIP activities.	4.15	4.06	4.22	3.49
4. Adequate opportunity was provided for me to share what my concerns are about the topic.	4.70	4.88	4.61	4.23
5. Adequate opportunity was provided for me to indicate what I hope to gain from the summer institute.	4.67	4.84	4.78	4.14
6. The session facilities were satisfactory.	4.70	4.69	4.28	4.03

*Mean ratings can range from a high of 5.00 to a low of 1.00.

Active Teaching. Mean ratings of those who attended the planning session on Active Teaching ranged from a high of 4.78 to a low of 3.39. Generally, these ratings indicated that participants found the planning session to be effective. As with the Student Team Learning planning session, the item receiving the lowest rating related to participant understanding of the objectives of the session prior to attending. All remaining items received ratings of greater than 4.00 reflecting a high level of participant agreement regarding the effectiveness of the planning session.

Teaching Variables. The mean ratings of the Teaching Variables planning session ranged form a high of 4.23 to a low of 3.14. Although the ratings for this planning session were generally positive, they tended to be lower on each of the six dimensions than those obtained for the other planning sessions. Consistent with ratings obtained for the Active Teaching and Student Team Learning sessions, participants expressed some concern regarding their understanding of the objectives of the planning session.

Some participants did not feel that the planning session was clearly presented. They also expressed a concern regarding the lack of adequate provision of information about the SITIP activities. Nevertheless, participants felt that the planning session provided them with an adequate opportunity to share their concerns about the Teaching Variables strategy. In addition, they felt they had sufficient opportunity to indicate what they hoped to gain from the summer institute. Participants found the session facilities to be satisfactory.

Summary

Participants' ratings of the four planning sessions were generally positive. The Mastery Learning planning session, in particular, received high ratings while the Teaching Variables planning session was not as successful. Participants at all four sessions were pleased with the opportunity to share their concerns about SITIP. However, except for Mastery Learning participants, they consistently rated their understanding of the objectives of the planning sessions prior to attending relatively low, suggesting that more communication was still needed about upcoming SITIP activities.

Counties generally did not send a team composed of participants as recommended by MSDE to the planning sessions. Of the two planning sessions for which that kind of participant attendance data were available, only four out of thirteen counties sent a team of at least one teacher, principal, and central office supervisor.

A cross-tabulation analysis of attendance at awareness conferences and planning sessions revealed that generally more than half of those who had attended a particular awareness conference had also attended the related planning session. Participants of the Active Teaching planning session demonstrated the highest incidence of joint participation, as 94 percent also participated in the awareness conference.

The major purposes of the planning sessions were accomplished. This included developing a list identifying the concerns, problems, and questions of LEA staff related to their selected instructional process in order that they be addressed during the summer institutes.

A standard evaluation rating form completed by participants of each of the four planning sessions revealed that overall, the sessions were highly effective. Participant ratings for each of the sessions provided strong evidence that there was adequate opportunity for people to share their concerns related to SITIP topics and also to indicate what they hoped to gain from the summer institutes.

Fall Planning Session

In September 1981, MSDE asked representatives of the LEA teams to meet to rewrite their original proposals according to a common format. The format selected was the Promising Educational Practices Submittal (PEPS) form designed by MSDE staff involved in Title IVc programs. Copies of completed PEPS forms were to be distributed to all counties at the request of LEA superintendents.

Three factors influenced the decision to conduct the September meeting:

- as a result of greater understanding provided by the summer institute training, several LEAs decided to revise their plans
- county office staff and MSDE staff were interested in knowing what each LEA planned to do, and wanted information presented systematically and more comprehensively than had been done in the initial proposals
- MSDE staff assigned as technical assistants (TAs) wanted an opportunity to meet and plan with LEA staff for local implementation and follow-up activities.

The one-day session was introduced by the MSDE Deputy Assistant Superintendent who explained the purposes and structure of the meeting. The MSDE Title IVc specialist handed out PEPS forms and materials

explaining how forms were to be completed. He defined terms and gave examples. For the remainder of the day participants worked in groups by topic.

MSDE TAs worked with the groups, first reviewing their own role. In the Student Team Learning and Master Learning groups some time was spent by participants talking though their implementation plans and sharing expertise (some LEAs had prior experience with the topics). Also in Student Team Learning, TAs involved participants in exploring alternatives for follow-up activities. In the Active Teaching and Mastery Learning groups, participants spent most of their time working as LEA teams to rewrite their plans. The MSDE Title IVc specialist went from one topic group to another explaining how evaluation should be conducted and described. When participants had a draft plan and had clarified points they left. Final PEPS forms were submitted to MSDE between October 1981 and January 1982; copies were distributed to MSDE and LEA senior administrators in February 1982.

Attendance

Each LEA was asked to send a three-person cross-hierarchical team including those people who had attended previous SITIP activities and who would be involved in implementation. Most LEAs sent fewer than three people, and several participants had not attended previous events. (Reassignments within counties impacted SITIP involvement.) Attendance data presented here are based on the general survey responses since none were collected during the planning session. Of the 206 active implementers surveyed in June 1982, 91 had attended the September planning session,

54.95% of whom were teachers, 27.47% school administrators, and 17.58% central office staff. For Active Teaching, Mastery Learning, and Student Team Learning teachers outnumbered other role groups, but for Teaching Variables each group was equally represented.

Analysis of Final Plans (PEPS)

The PEPS (Promising Educational Practices Submittal) form consists of eight categories -- purpose, target population, description, special considerations, staff development, cost, results, and services available. Plans were analyzed on six criteria: purpose, target population, scope of implementation, staff development, evaluation techniques, and plans for dissemination.

Purpose

The majority of school districts stated that the SITIP project was adopted for the purpose of improving classroom management and instruction in order to increase student achievement.

Of the 19 counties, 14 stated explicitly that the purpose was to impact student achievement. The remaining five LEAs expected to impact teacher behavior to varying degrees through staff development and aimed more for instructional improvement although student achievement was implied.

Target Population

The target population selected to participate in the SITIP project varied among the counties as can be seen in Table 39.

Table 39

Strategy, Scope and Target: Implementation as Planned (PEPS) 1981

Counties	Topics	Implementation Strategy	# Schools	# Teachers	# Classes	# Students	Grade Levels	Curriculum Subjects	Scope	Time (Months)
Allegany	ML	LS	1	30			K-12	Various	2MUs per T	
A. Arundel	ML	LS	1	2	4	120	9-12	B	1P per D per S per C	4.5
Baltimore City	ML	PD	1	45			10-12	Various		
Baltimore County	ML-TV STL	LS PD	1 2	3 7	3 7	80 250	3-4 3-5, 6-7	M M, LA Sc, SS	1P per D per S per C 1U per T	9
Calvert	TV STL	LS LS	} 1	2	2	66	6-8 6,7	M,LA,SS M, LA	3obs per T 1P per D per S per C	9
Cecil	AT[1]	PD	4	20		450	4,7	M, LA	1P per D per S per C	8
Charles	STL	LS	1			230	7	M, LA	1P per D per S per C	7
Frederick	TV	PD	1	12			7-12		3obs per T	
Garrett	AT	LS	1	7		470	9-12	M,R,Sc	1P per D per S per C	9
Harford[2]	AT[1]	DW	26	434	434		1-5	M	1P per D per S per C	9
Howard	ML[1]	LS	1		234		6	R, SS	1P per D per S per C	1
Kent	TV	LS	1				1-4	R	3obs per T	4
Montgomery[3]	AT STL TV	LS LS LS	1 1 1	4 6	4 18	104 221 146	2-5 7-9 6	M M,LA,Sc LA	1P per D per S per C 1P per D per S per C 3obs per T	8 4
Prince George's[4]	STL	CB	9-27		27	1080	5	LA	2P per W per S per C	7
Queen Anne's[4]	STL	CB	1	10%			9-12	M,SS,FL		
St Mary's[4]	AT	CB	1	10			5-12	M,LA,Sc, SS, Sp		
Somerset	TV	LS	1	2	2	56	1-2	R		
Washington[4]	STL	CB		50%			3-12	Various	1U per T	
Worcester[4]	ML STL	LS CB	1 16	5 50	5	100	1-2	M M, LA	1P per D per S per C 1U per T	9 1.5

1 T. I revisions made since Spring 1981.
2 In the second year Harford planned to add all grade 6-8 teachers and schools.
3 The AT sch[illegible] in Montgomery also planned to use T/.
4 Capa[illegible]ing LEAs after training and encourage volunteers, numbers of implementers are "hoped for," not [illegible]

Subje ts Key
M = Mathematics
LA = Language arts
R = Reading
Sc = Science
SS = Social studies
FL = Foreign language
Biol = Biology
Sp = Special education
Various = Various curriculum areas

Strategy Key
CB = capacity building
DW = District wide
LS = Lighthouse school
PD = Pilot/district

Scope Key
C = class
D = day
MU = mini unit
P = period
S = subject
T = teacher
U = unit
W = week

14

Across all topics basic skills subjects were the most common focus: mathematics selected by 10 LEAs, language arts selected by eight, and reading by four. Social studies and science were each selected by five LEAs. Ten counties included elementary grades (grades 1-5) in their plans and fourteen included secondary grades (grades 6-12), with five counties including both elementary and secondary and five focusing exclusively on senior high school (grades 9-12).

Four out of the five counties selecting Active Teaching planned to focus on classroom implementation. All five counties planned to implement Active Teaching in mathematics. In addition, two of these LEAs planned to include reading and/or language arts. One county added science as a subject area. One LEA focused on senior high school grade levels and three focused on elementary grades. Of those three counties, two also planned to implement in the middle school grades. One county involved in Active Teaching planned to focus on staff development with ten high school teachers in five subject areas as the target group.

In Mastery Learning, all six counties planned to focus on classroom implementation. Two of the six counties planned to implement Mastery Learning in mathematics. Two LEAs indicated that Mastery Learning could be implemented in a wide variety of subject areas. Additional subject areas specifically mentioned were reading, social studies, and biology. Two counties focused on senior high school grade levels and three focused on elementary grades. One LEA planned implementation in all grades (K-12) in one school.

Four of the eight counties selecting Student Team Learning planned to focus on classroom implementation. Mathematics and language arts were most

popular. Additional subjects mentioned were science and social studies. One county focused on the elementary grade levels, three LEAs on the middle school grades, and one county on both elementary and middle school grades. Four counties planned a staff development approach.

All six of the Teaching Variables counties planned to focus on classroom implementation. Three of the six counties selected mathematics and four selected reading and/or language arts. Additional areas included science and social studies. Four counties focused on the elementary grades, one on the middle school grades and one on both the middle and senior high school level. In one case (Baltimore County), Teaching Variables was to be used as a support to Mastery Learning, and in another case (Montgomery) one school planned to use Teaching Variables on its own, but a second school planned to use it in support of Active Teaching.

Scope

The following section discusses the scope of implementation proposed by the counties. One dimension of scope is the number of instructional processes chosen for implementation. Only four out of the 19 counties involved in the SITIP project selected more than one instruction process. Of those four, two LEAs chose to implement three processes and two chose to implement two processes.

Scope also relates to the timeline or schedule of implementation and also to the range -- number of classes or amount of instruction planned. Where the focus was direct implementation, the planned scope ranged from all teachers in all elementary schools for all mathematics classes for about half the school year (Harford, AT) to two classes in a single school

for reading for about half the school year (Somerset, TV). Where the focus was on staff development as many as 1,000 teachers were to receive some kind of training, with the hope that 500 would use the process (Washington STL) or as few as 10% of the teachers in one school would be trained and encouraged to implement (Queen Anne's, STL).

For Active Teaching, all sites planned to begin in the fall of 1981 and continue for the next two school years. The number of teachers involved ranged from all in all elementary schools (Harford) to four in a single school (Montgomery), with each teacher using AT for three to five periods a week.

In Mastery Learning, five of the six sites planned to begin in the fall of 1981, the sixth (Howard) planning for actual classroom use to begin in February 1982. Each LEA selected a single school with from two to 45 teachers involved. Three sites expected each teacher to use ML for at least one period a day. One LEA expected each of its 30 teachers to use ML for at least two mini-units with at least one class. Another LEA planned for two teachers to use ML one period a day for 18 weeks. The Baltimore City school planned to involve 45 teachers but did not specify the amount of teaching time.

In Student Team Learning, all eight sites planned to implement one or more of the three STL techniques in the fall of 1981. Five counties involved a single school, most not specifying the number of teachers to be involved. One LEA (Baltimore County) planned involvement in two schools by seven teachers using all three techniques. One county expected from nine to 27 schools to be involved, and Washington planned staff development for

1,000 teachers hoping that 50% would volunteer to use STL for at least one unit of instruction. Three counties specified a target of a period a day for one six-week unit for each teacher; four counties planned for a period a day per teacher for three to nine months.

For Teaching Variables, four of the six sites expected to begin implementation in the fall of 1981, with Somerset beginning in January 1982 and Kent beginning in February 1982. Each LEA involved a single school (with the exception of Montgomery), with two or three "time" observations for two to 12 teachers. Instructional time is relevant only for the "content" variable, but was not specified.

Staff Development

The majority of the counties sent teachers, principals, and central office staff to the MSDE summer institute for the instructional process that had been selected for implementation. The teachers attending the institute were to serve as pilot teachers, helping the central office staff and school administrators to disseminate the process to other teachers and schools through inservice training, classroom observations and individual assistance. In almost all cases plans indicated that some orientation and inservice activities would take place in the 1981-82 school year, but levels of specificity varied. (Counties focusing more on a staff development approach than on direct implementation have been discussed in the context of "target population" and have "capacity building" as their implementation strategy presented in Table 39.)

Evaluation

Table 40 summarizes the strategies planned by the counties to evaluate the impact of the instructional process. Since the most often expressed reason for participating in the SITIP project was to increase student achievement, the majority of the counties planned to use standardized or teacher-made tests. Most of the districts planned to use a pre/post test procedure using the CAT as the standardized testing instrument with most data collection and analysis planned for the 1982-83 school year.

Verification or monitoring by principals and/or supervisors was another popular strategy for evaluating implementation of the instructional process.

Of particular interest is the fact that three LEAs chose to use the Teaching Variables time-on-task technique as an evaluation measure. Specifically, Cecil and Montgomery Active Teaching sites and the Baltimore County Mastery Learning site elected to use Teaching Variables this way.

Dissemination

Several counties did not indicate a specific dissemination plan in the PFPS proposal. Many counties were waiting to find out the results of the first year of implementation before deciding on the extent of dissemination during the second year of the project. Counties indicated that they would be willing to share materials, inservice plans, and evaluation results, to host on-site visitations, to provide peer consultation and/or to conduct orientation meetings and workshops. Most of the counties which indicated specific dissemination plans on the proposal planned to train additional teachers in the same school, or to train teachers in one or two other

Table 40

Proposed Evaluation Procedures
(Fall 1981)

LEA	Topic[1]	Standardized Testing	Teacher Testing	SURVEY REACTIONS			Verification/ Monitoring	Routine Documentation	Other
				Teacher	Student	Parent/Community			
Allegany	ML						X		X[4]
Anne Arundel	ML		X						
Baltimore City	ML		X	X				X	X[3,9]
Baltimore Co.	ML STL TV	X	X X	X					X[10]
Calvert	STL TV	X[2] X	X						
Cecil	AT*	X							X[5]
Charles	STL	X							
Frederick	TV	X							X[5]
Garrett	AT		X	X	X	X	X		X[7]
Harford	AT*	X					X		
Howard	ML*		X						
Kent	TV								X[5]
Montgomery	AT STL TV	X X	X				X		X[5]
Prince George's	STL	X							
Queen Anne's	S[illegible]						X		
St Mary's	A[illegible]						X		
Somerset	TV	X							
Washington	STL							X	
Worcester	ML STL	X		Y	X	X	X	X	

1. The topics are abbreviated as follows (1) Active Teaching = AT, (2) Mastery Learning = ML, (3) Student Team Learning = STL, and (4) Teaching Variables = TV
2. Project Basic assessment
3. Observations MSDE staff
4. Third party evaluation
5. Analysis of time-on-task data
6. Analysis of dissemination.
7. Analysis of absenteeism/discipline
8. Analysis of curriculum revisions
9. Analysis of SITIP implementations.
10. No evaluation design.

*Topic changes made May to September, 1981

schools within the district. A few districts were planning to conduct county-wide orientations for interested school personnel. One county specified county-wide implementation in all middle schools during the 1983-84 school year.

Summary

The proposals differed in the quality and amount of information included in the forms. The most common weakness related to evaluation design, especially relating to assessment of student achievement. However, the PEPS format allowed for greater detail and uniformity among proposals than had the reporting format used in the development of the initial proposals.

Summary and Conclusions -- Planning

During 1981, MSDE initiated three planning activities involving LEA staff: 1) development of implementation proposals, 2) spring planning sessions for clarification of topics and assessment of needs for summer institutes, and 3) fall planning session to clarify or revise final implementation plans. Evaluation questions addressed were:

- What happened at planning sessions?
- Who was involved?
- How did participants evaluate the activities?
- What did LEAs plan, and (if plans changed) how and why did plans change?

Planning Sessions

Separate spring planning sessions, conducted by MSDE staff at the proposed sites for the Summer Institutes, reviewed the overall SITIP project and involved participants in clarification of the topics and local

plans, and identification of needs (by role group) for Summer Institutes. The fall planning session, conducted by MSDE staff, divided participants into topic groups for revision or refinement of local plans and identification of needs for follow-up sessions.

Participation

MSDE encouraged LEAs to involve representatives of all three role groups (teachers, school administrators, and central office staff) in planning activities. In all LEAs for all topics, all three role groups were involved in planning to some extent. Of the 206 active implementers (surveyed June 1982), 65.05% had been involved in at least one planning activity. Of the 134 active implementers who had been involved in planning, 56.72% were teachers, 20.9% were school administrators, and 18.66% were central office staff. Involvement in two or more planning activities (proposal development, spring and fall planning sessions), was sustained by 44% of the central office staff, 85.71% of the school administrators, and 50% of the teachers.

When data were examined by topic by county, a few instances were found where participation in planning activities was such that implementation problems might be anticipated. The seriousness of such problems was largely dependent on the nature of the local plan. For instance, if an LEA had a pilot/district or district-wide strategy, it was more important for all role groups to be involved in planning than if the strategy focused on a single school with no intention of expansion to a large number of sites. In general, if the LEA intention was for eventual implementation (and institutionalization) by many teachers in several schools, it was considered necessary for at least one representative of each role group to have been

involved in at least two of the three planning activities. It was preferable for individuals to sustain involvement. The discussion below identifies the extent to which representation occurred by topic, then by role. Implications are then reviewed.

- For AT, 52.17% of the active implementers were involved in at least one planning activity. In two counties teacher representation was inadequate*; in one county school administrators were insufficiently represented; and in another central office staff were relatively uninvolved.

- For ML, 62.66% of the ML active implementers were involved in planning. Teacher and school administrator representation was inadequate for one LEA, and central office representation was inadequate for two other LEAs.

- For STL, 72.41% of the active implementers were involved in at least one planning activity. Both school administrator and central office representation was inadequate in two LEAs, and in three other LEAs central office representation was inadequate.

- For TV, 77.77% of the active implementers were involved in at least one planning activity. Teachers were inadequately represented in two LEAs, school administrators inadequately represented in another two LEAs, and central office staff inadequately represented in two LEAs (one of which also had under-representation for teachers).

With the exception of AT (where only 12.5% of proposal developers were teachers), approximately equal numbers of each role group were involved in proposal development for each topic. Again with the exception of AT, teachers outnumbered other role groups at the spring planning sessions. At the fall planning, teachers outnumbered other role groups for all topics except TV.

Lack of teacher representation in planning -- for any topic or implementation strategy -- required other LEA staff to spend energy on communication and commitment-building to bring about successful

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*Inadequate - role represented at only one, or none of the planning activities.

implementation. This occurred in four LEAs, one of which needed to do this for two topics .

Lack of school administrator representation occurred in six LEAs -- in three cases resulting from reassignments and requiring other LEA staff to orient n w principals. In one case, it was relatively unimportant since a teacher-coordinator provided school leadership. In two cases (both STL) burden of implementation was placed on teachers, with -- in one of the two LEAs -- training and support the responsibility of central office staff.

Central office staff were under-represented in six LEAs, three of which planned multiple topic implementation. Two of those LFAs had light-house school strategies requiring little involvement of central office staff, and the third had a lighthouse strategy for one topic and a capacity building strategy for the other, both with school-based coordinators. In the other three LEAs, two had lighthouse strategies with school-based coordinators, but the third had a capacity-building design which did require central office staff involvement. In that county, low participation by that role group in planning predicted some implementation problems.

Overall participation patterns (looking at both planning and training activities) in the context of local plans, indicated that eleven LEAs would have no implementation problems caused by inappropriate representation. Attention to teacher commitment might be needed for AT (Cecil and Montgomery), MI (Baltimore County), and TV (Kent and Montgomery). School administrators might need information and encouragement to support their teachers for AT (Garrett), MI (Baltimore County), STL (Montgomery, Prince George's), and TV (Frederick). Attention to central office staff involvement might be needed

for STL (Prince George's, Worcester). Only in three counties was participation such that, when combined with factors such as staff reassignment, and examined in the context of local plans, problems of implementation would put a heavy burden on one particular role group (Baltimore County -- MI central office; Montgomery County -- AT and TV principals, STI teachers; Prince George's STL teachers).

Participant Evaluation of Activities

Only the spring planning sessions were formally evaluated by participants. Overall means (on a five-point scale on six criteria) ranged from 3.79 (TV) to 4.53 (ML), indicating that, in general, participants considered that the session activities satisfactorily met their objectives. The weakest point (with the exception of ML) was that participants had not fully understood session objectives beforehand. The strongest point was that participants felt that they had adequate opportunity to express interests and concerns that should be addressed at the Summer Institutes.

Data were collected by observation and interviews from participants of the fall planning session and central office staff who did not attend but were involved in rewriting local plans. In several cases local educators considered the task of rewriting using the PEPS format a waste of time and thought the activity to be political rather than practical. However, most people involved in planning recognized that one-page summaries using a common format would provide the information requested by LEA superintendents. Participants of the fall planning session benefitted most from the opportunity to clarify their own plans (especially when there had been staff reassignments) and to share ideas with other LEAs. They also

appreciated the opportunity to suggest ideas and schedules for follow-up activities.

Comparison of Initial Proposals and PEPS Plans

Since the information requested and provided in the initial proposals differed from the PEPS proposals, comparisons could only be made in three areas: selection of instructional process(es), scope and strategies of implementation, and evaluation procedures.

Instructional Processes. Four counties made changes from the initial proposal to the PEPS form: three deciding to implement a single process instead of a combination including Teaching Variables (Cecil, Harford, and Howard). Another (Baltimore County) retained Teaching Variables as a support to Mastery Learning. The complicated coding procedure used to measure time-on-task, the time required to make classroom observations, and the possibility of negative teacher reactions to the observational process were some of the reasons counties decided against using the Teaching Variables process.

Scope and Intensity. The PEPS plans gave greater depth of information than did the initial proposals and in some cases comparisons are difficult. However, some general comparisons can be made.

In curricula there was much less specificity in the spring than there was in the fall. In the former case, 12 LEAs used general terms such as basic skills (4), any or all subjects (5), and all basic academic subjects (3), while in the fall plans only three LEAs suggested that any/all subjects would be addressed. References to specific subjects increased from the spring to the fall plans:

- mathematics -- from 6 to 16
- language arts -- from 4 to 10
- science/biology -- from 3 to 6
- social studies -- from 1 to 6.

Reading, mentioned by four LEAs in the spring, was mentioned by four in the fall. Nutrition was dropped, and foreign language and special education were added. It should be noted that for Active Teaching, Mastery Learning, and Teaching Variables, developer/presenters advocated use for basic skills. Active Teaching presentations focused almost exclusively on mathematics. In Mastery Learning, a brief reference was made to science. In all three cases it was stated that the topics are most appropriate for structured curriculum.

No changes were made in grade levels selected by nine LEAs. Six LEA fall plans had fewer grade levels involved than initially, five counties eliminating one or more elementary grades and one county going from all grades to grades 1-4. Two counties added senior high school grades, and one county -- for staff development -- offered to involve all grade levels instead of the initial K-5 planned.

Strategies. Strategies of implementation were much more clearly explained in the PEPS, but only at six sites were strategies actually changed. Three counties changed from a lighthouse school strategy to the "pilot district" strategy which means that if the process is successful in the first school, other schools will be actively encouraged by central office staff to become involved. Two LEAs changed from a feeder school strategy to capacity building in which staff are trained and then conduct training for others. One LEA changed from building district capacity to a lighthouse school.

Since the original plans did not give details of scope, little comparison can be made in terms of instructional time spent on using SITIP. Both original and PEPS plans suggested two years of implementation beginning in September 1981.

Evaluation Procedures. Comparisons between the initial plans for evaluating the impact of the instructional process and the evaluation strategies proposed in the PEPS forms are summarized in Table 41. The majority of counties reduced the number of evaluation procedures planned in the PEPS proposal. Twenty-six percent of the counties added new techniques, 68 percent eliminated planned techniques, and one LEA remained unchanged. Verification by principals or supervisors, and standardized and teacher-made testing remained the most popular. In general, evaluation designs, methods and measures were relatively simple in both sets of plans. Most data collection on impact was planned for the second year of implementation.

Summary

In general, PEPS plans were more complete and suggested a greater level of understanding of the processes than did the May plans. Changes made in topic selection, implementation and evaluation strategies, and scope and target were usually strongly influenced by the Summer Institutes, and reflected thoughtful consideration of the SITIP topics and their potential relevance to local interests.

Relationship of Planning to Training and Implementation

Following one-day awareness sessions on four school improvement processes, 19 LEAs submitted proposals to implement one or more topics with

Table 41

Comparison of Evaluation Procedures (May and September 1981)

LEA	Topic[1]	Standardized Testing		Teacher Testing		Survey Reactions		Verification Monitoring		Routine Documentation		Other	
		May	Sept	May	Sept	May	Sept	May	Sept	May	Sept	May	Sept
Allegany	ML	X[2]				X		X	X	X			X[4]
Anne Arundel	ML	X			X	X						X[3]	
Baltimore City	ML			X	X	X	X	X			X		X[3,9]
Baltimore Co.	ML-STL-TV	X	X		X		X						
Calvert	STL-TV	X	X[2]	X	X					X		X[5,6]	
Cecil	AT*	X	X			X		X				X[3]	X[5]
Charles	STL	X	X	X		X		X				X	
Frederick	TV		X					X					X[5]
Garrett	AT	X		X	X	X	X	X	X			X[3,7]	X[7]
Harford	AT*		X						X			X[5]	
Howard	ML*	X		X	X					X		X[5]	
Kent	TV	X						X		X			X[5]
Montgomery	AT-STL-TV	X	X		X	X		X	X	X		X[5]	X[5]
Prince George's	STL		X					X		X		X[8]	
Queen Anne's	STL							X	X				
St Mary's	AT	X						X	X	X		X[7]	
Somerset	TV		X			X				X		X[5]	
Washington	STL	X				X		X			X	X[6,9]	
Worcester	ML-STL		X			X	X	X	X		X		

1. The topics are abbreviated as follows: (1) Active Teaching = AT, (2) Mastery Learning = ML, (3) Student Team Learning = STL, and (4) Teaching Variables = TV
2. Project Basic assessment
3. Observations by MSDE staff
4. Third party evaluation
5. Analysis of time-on-task data.
6. Analysis of dissemination.
7. Analysis of absenteeism/discipline.
8. Analysis of curriculum revisions.
9. Analysis of SITIP implementations.
10. No evaluation design.

*Topic changes made May to September, 1981.

state support provided for two years. Spring planning sessions identified participant training needs. Following summer training a fall planning session was held and participants rewrote plans using a given MSDE format (PEPS).

From spring to fall changes were made in local plans which reflected participants' increased understanding of the topics and how they could be used in the LEAs. The greatest changes related to topic selection, scope, strategies, and evaluation:

- The topic affected was Teaching Variables -- dropped by three counties, and redefined as a support to Mastery Learning by a fourth LEA.
- Scope became more clearly defined in terms of curricular areas and grade levels. Three counties added grade levels and five LEAs eliminated one or two elementary grades, and one county went from all grades to grades 1-4.
- Strategies became more clearly defined, and six LEAs changed -- three changing from a lighthouse to a pilot-district approach, two changing from a feeder school to a capacity-building approach, and one changing from a capacity building to a lighthouse school.
- Evaluation procedures were clarified, simplified, and in many cases reduced in number, with administrator verification and standard testing (often using teacher-made tests) most common.

Participation in planning was encouraged for all role groups. In the context of local plans, participation patterns may negatively impact implementation in three counties, result in a need for attention to specific role group needs for five other counties, and positively impact implementation for the remaining 11 LEAs.

In general, the cross-hierarchical team approach ensured shared understanding of responsibilities, built commitment, alleviated problems caused by staff reassignments, and resulted in the development of feasible plans appropriate to LEA needs.

With the exception of two instances, MSDE's initiatives were appropriate and helpful. (The exceptions were: 1) communication in the first six months of the project was such that some local participants did not clearly understand objectives or procedures; and 2) presentation of the PEPPS form was such that some participants saw relatively little value in its use.) Overall, LEAs indicated that planning activities and the support provided by MSDE in planning were well-designed and carried out, reflecting a clear focus on program improvement.

VI. PROGRAM IMPLEMENTATION

This chapter describes local implementation of SITIP topics for the 1981-82 school year. The overall question addressed is:

- What is the nature and extent of local implementation for the first year of the project?

The basic criterion for success is implementation of local plans:

- Does the school system carry out the activities planned by local staff?

Additional questions addressed are derived primarily from the literature on planned change:

- Within the context of the local strategy and scope and intensity of implementation what changes were made and why?
- What were the patterns of participation in critical events for each role group?
- What were the roles and responsibilities of local participants?
- What proportions of the school year and of class time were spent on the topics?
- What was the impact on teachers, on students, and on instruction in general?
- What needs and concerns were expressed by participants that might be addressed in the second year of implementation?

Finally, the answers to these questions are synthesized to determine:

- How do the various factors interact to influence project success?

Information is based on local on-site observations and interviews, observations of MSDE-sponsored events and TA meetings, interviews with MSDE TAs, and responses to the General Survey (June 1982). Following a description of the topics implemented, each topic is discussed in turn in terms of scope and intensity; LEA participation in critical events; roles and

responsibilities; time spent on the topic; impact on instruction in general, on teachers, and on students; and participant needs and concerns. These aspects were identified through an analysis of local plans and through a review of relevant research. The former helped to identify locally intended elements and the latter helped to identify factors found to be successful. Brief summaries are presented for each topic and a final summary discusses conclusions and implications across topics.

SITIP Topics

In the Overview of SITIP (Chapter II), Table 2 presents topic summaries as given to participants of the Awareness Conferences. Here, more detailed descriptions are given to provide an image of what each topic requires for implementation. In each case the description is based on analysis of relevant materials (with one example cited per topic), and observation of training events. Following the specific descriptions is a discussion of comparative complexity.

Active Teaching*

Active Teaching (AT) is a system of direct, whole group instruction developed by Thomas Good and Douglas Grouws at the University of Missouri. This system of instruction was originally designed for the teaching of mathematics and consists of the following components:

1. Pre-lesson development

   Concepts and skills from the previous night's homework are reviewed, homework is checked and collected, and mental computation exercises are performed.

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*Elementary mathematics curriculum guide: Appendix A -- A modified summary of active teaching. Paper developed by Harford County Public Schools based on the work of T. L. Good and D. A. Grouws of the University of Missouri. Harford County Public Schools, Bel Air, Md., 1982.

2. Lesson development

Prerequisite skills and concepts are briefly reviewed, new concepts are introduced via teacher explanation and demonstration, and student comprehension is assessed through controlled practice. Controlled practice consists of practice tasks attempted by students, followed by teacher review and immediate feedback with further explanation and clarification, if necessary.

3. Seatwork

Uninterrupted, individual, successful practice is provided in order to increase proficiency in the skills and concepts taught during the lesson development phase. The teacher monitors, checks, and collects the seatwork providing corrective or enrichment activities where appropriate.

4. Homework

Homework is assigned, which includes one or two review problems and problems related to the concepts developed that day. Homework assignments are short and are collected and checked by the teacher.

5. Special reviews/maintenance

Weekly and end-of-unit reviews help to maintain the skills and concepts learned. Performance on homework assignments provides information concerning areas in need of review.

Active Teaching emphasizes active involvement of the entire class in all phases of the instructional process. This is accomplished through stimulating instructional methods, numerous opportunities for practice, and making expectations -- seatwork and homework -- clear to students. Success is important and the continuous assessment of student comprehension through controlled practice and seatwork allows the teacher to correct misunderstandings before the student becomes frustrated and loses interest in the lesson. Homework and review sessions help the student to maintain the skills and concepts he or she has acquired.

Mastery Learning*

Mastery Learning (ML), developed by Benjamin Bloom and James Block, is an instructional strategy which is based upon the belief that almost all students can master what they are taught, and that this learning can be accomplished in an ordinary classroom environment. Developers claim that use of ML increases the number of students mastering instruction, improves student interest and attitudes, and allows teachers to cover more material in less time.

Although there have been several adaptations of the ML instructional process, essential components of the ML model include:

- Specifying the objectives to be taught.
- Breaking the objectives down into prerequisite and component skills.
- Providing appropriate instruction aligned with the objectives to be mastered.
- Testing the students' progress in mastering the objectives through the use of a formative evaluation measure.
- Providing students who have not achieved mastery with additional corrective work in the deficient areas specified by the formative test, and providing students who have achieved mastery with enrichment activities to reinforce and supplement learning.
- Testing final mastery of the objectives with a summative evaluation measure.
- Recording student progress in terms of individual mastery of specified objectives.

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*Block, J. H. (Ed.). Mastery learning: Theory and practice. New York: Holt, Rinehard & Winston, Inc., 1971.

Mastery Learning implementation depends upon several conditions. Teachers must believe that the majority of students can achieve mastery if given the opportunity to learn. Students must believe that they can achieve mastery if they try. Objectives should be operationally defined and the evaluation measures should be related to the objectives and be designed to assess both higher and lower cognitive skills. Student achievement is criterion rather than norm-referenced. Formative tests allow the teacher to assess student progress and gear instruction to meet the needs of individual students. "Mastery" is usually defined on average as 80% of students demonstrating success on at least 80% of the objectives in a given unit of instruction.

Student Team Learning*

Student Team Learning (STL) techniques use peer tutoring and team competition to facilitate student learning. Three STL techniques were introduced in Maryland. Student Teams-Achievement Divisions (STAD) and Teams-Games-Tournaments (TGT) were developed by Robert Slavin at the Johns Hopkins University. Jigsaw was started at the University of Texas by Elliot Aronson who is currently at the University of California at Santa Cruz.

STAD is considered to be the simplest of the three STL techniques. Teams are formed containing four to five members. Each team contains a mix of ability levels and racial and ethnic types and includes both boys and

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*Slavin, R. E. Using student team learning. Baltimore: The Johns Hopkins Team Learning Project. Center for Social Organization of Schools, 1980.

girls. The team membership is designed to encourage student interaction and cooperation. After the teacher introduces the lesson content, the teams practice the new material together, helping each other when problems arise and making sure that every member understands the concepts that have been taught. Weekly quizzes are taken individually on the new material. The team members' performances on the quiz are combined into a team score by the teacher. The number of points that each student contributes to his or her team score is determined by the amount of improvement shown by the student in comparison to previous quiz score averages. This strategy of using degree of improvement to determine student contribution to the team places emphasis on self improvement and sets reasonable goals for all students to achieve. A weekly newsletter publicizes team and individual student accomplishments.

TGT uses the same format as STAD except for the individual quiz which is replaced with weekly tournaments. Tournament groups are formed that consist of members from several teams. Assignment to tournament groups is determined by similarity in previous tournament performance. This allows for fair competition. The points "won" by the team members during the tournament are combined into a team score and team accomplishments are recognized in a newsletter.

In Jigsaw, the lesson is divided into topics and each member of a team is assigned a topic area. Each team member works alone, then joins an "expert group" consisting of members from the other teams who have been assigned the same topic area. After discussing their topics, the students return to their teams and take turns teaching their teammates about their

topic areas. Team performance on a quiz is used to determine a team score for the lesson.

The key factors of STL are peer interaction, cooperation, and competition which tap motivation. These factors have been shown to improve attitudes and achievement.

Teaching Variables*

Teaching Variables (TV) was developed by the Basic Skills Component at Research for Better Schools, Inc. (RBS). Three variables found to be strongly related to effectiveness of instruction and student achievement were identified: time, content, and academic performance (see Figure 1).

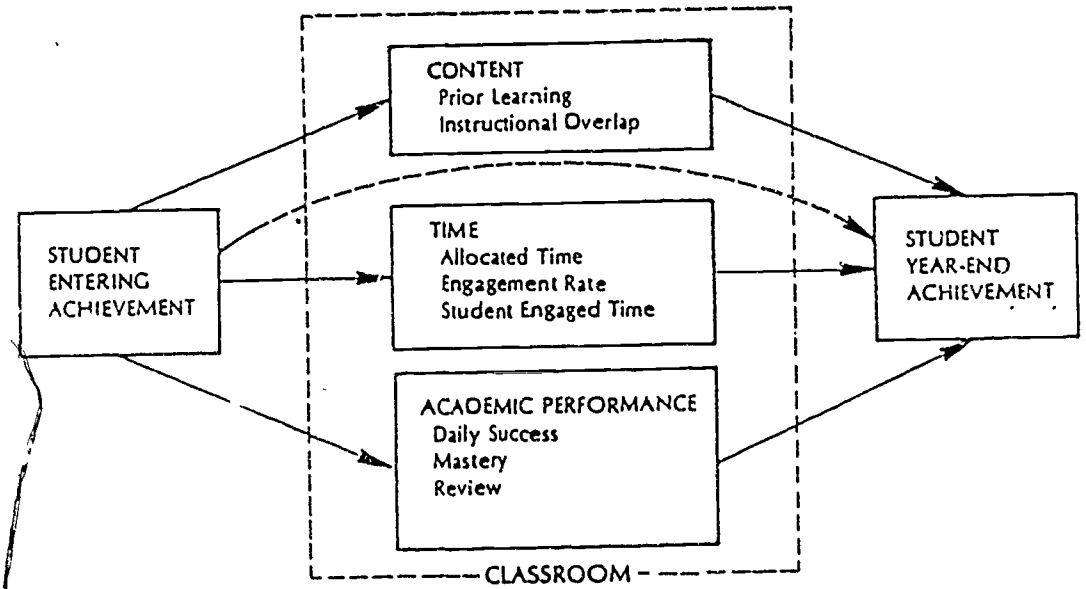

Figure 1. Some of the processes affecting achievement.

In Maryland, the RBS developers concentrated on the "content" and "time" variables at the summer training institute.

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*Improving basic skills instruction: A research-based approach. Paper prepared by Research for Better Schools, Inc. as advanced reading for the Maryland State Department of Education Awareness Conference on Teaching Variables, 1980.

The content variable encompasses two factors: 1) assessment of prior learning; and 2) alignment of curriculum objectives and classroom instruction to the testing instrument. The content component emphasizes the importance of matching instruction with students' prior learning and with the LEA's measure of student achievement (e.g., California Achievement Test). Central office staff may wish to assure that the LEA curriculum and the achievement measure are aligned before working with teachers. Teachers are asked to make a year-long instructional plan for their classes that takes into account both their students' prior learning and the content to be tested at the end of the year. Teachers are encouraged to record content coverage and their students' mastery throughout the school year.

The time variable emphasizes the importance of student engaged time (SET) in determining effectiveness of instruction. By measuring SET or the number of minutes during which students are actively engaged in learning, the teacher can become better aware of how effectively he or she is managing instruction. In the case of the time variable, the instructional improvement cycle involves: 1) measuring SET via classroom observations by fellow teachers or principal; 2) comparing SET to research data in order to determine level of predicted achievement and opportunity for improvement; 3) reviewing research-based strategies with colleagues and selecting one to improve SET; 4) implementing strategies directly related to the identified need area (e.g., discipline, socializing, management transition), and 5) evaluating the effectiveness of the strategies in improving SET via additional classroom observations.

Teaching Variables is "a comprehensive approach to the improvement of basic skills" and was developed ... "so that school districts can acquire their own means of implementing, monitoring, and eventually institutionalizing an instructional improvement capability."

Complexity of the Topics Implemented

While each of the four SITIP topics is a research-based process for instructional improvement, with three of them (the exception is Student Team Learning) based on a consensus of process-product research on effective classrooms, each is different in several ways. This means that each topic requires different kinds of actions by local implementers -- teachers, school administrators, and central office staff. For instance, AT and STL are essentially classroom focused, while ML and TV require involvement of school and district staff as well as teachers. For these reasons, the researchers conducting this study analyzed the four topics to determine complexity.

Complexity is defined on four dimensions: knowledge, materials, methods, and organization. Each topic is rated on a five point scale for each dimension (5.00 high; 1.00 low).

- Knowledge: how much that is new must be learned?
- Materials: how much do classroom materials need to be redesigned or developed?
- Methods: how much change is required in the way things are done a) in the classroom, b) in the school?
- Organization: how much role change and administrative action are required?

Table 42

Complexity of the SITIP Topics

Dimension \ Topic	AT	ML	STL	TV
Knowledge	2	3	3	5
materials	2	4	3	3
methods - in class	2	4	4	3
- in school	1	3	1	3
	1.5	3.5	2.5	3
organization	1	2	1	4
total	6.5	12.5	9.5	15
mean	1.62	3.12	2.37	3.75

Mean ratings vary from a high of 5.00 to a low of 1.00.
AT = Active Teaching, ML = Mastery Learning,
STL = Student Team Learning, TV = Teaching Variables

As indicated in Table 42, topics may be ranked in order of complexity as follows: AT, STL, ML, and TV (with AT least complex). Assessment is determined from a fidelity perspective, i.e., as intended by the developer, not as adapted by implementers.

Active Teaching (mean rating 1.62) is relatively simple -- a systematic structure (lesson plan, framework) for instruction -- that may conceptually clarify ideas for implementers but requires little new knowledge. Additional materials may need to be developed for homework, but few major changes are required in the classroom or school. No role changes or new administrative action are required, with the possible exception of an active policy about homework.

Student Team Learning (mean rating 2.37) requires knowledge of grouping procedures, appropriate changes in delivery of instruction, and methods of assessing and recording student achievement. Materials need to be purchased or developed to fit peer learning. Changes are required in classroom practice but few are required from a school perspective. No role

or administrative changes are required although the principal's support is helpful in publicizing student successes.

Mastery Learning (mean rating 3.12) is fairly complex, requiring new knowledge in curriculum and assessment, analysis and development, and subsequent selection, redesign or development of appropriate materials. The way things are done changes in the classroom and the school since instruction becomes more structured, and record keeping and curriculum alignment make new demands on faculty. Administrative action is required to arrange for "planning time" for analysis and development, and to facilitate test scoring and record keeping. Also, teachers' roles change somewhat since Mastery Learning requires more than usual effort in analysis and development and systematic diagnostic/prescriptive instruction.

Teaching Variables (mean rating 3.75) is most complex even though only two variables, "time" and "content," are addressed. New knowledge is required relating to analysis and development for "content" (which is similar to Mastery Learning since it requires alignment of curriculum, instruction, and tests). For "time," participants need to know how to observe, code, and analyze students' "engagement rate," compare findings with given norms and/or desired results, then determine and implement improvement strategies. Extensive materials are used for analysis (provided to trainees by developers). Also, in order to ensure curriculum alignment (for the "content" variable) appropriate materials may need to be developed. The way things are done in class changes only as much as the teacher decides for "time," but changes more for "content." At the school level, faculty meeting time is used to determine improvements, some of which may be school-wide. Since teachers are observed by their peers or school administrators, organization changes occur to facilitate scheduling. This

dimension (organization) is made more complex since teachers change their role -- to become observers and to increase efforts in systematic diagnostic/ prescriptive instructional improvement.

It may be argued that:

- high complexity in "knowledge" requires effective training and on-going technical assistance
- high complexity on "materials" requires appropriate allocation of resources (time to develop or funds to purchase)
- high complexity on "methods" requires support and problem-solving mechanisms to help teachers (from school administrators and central office staff)
- high complexity on "organization" requires effective management by school administrators and central office staff.

In the following discussion of implementation, topic "fidelity" provides a general basis. However, LEAs made adaptations to meet local needs and this was acceptable in the context of local plans.

Active Teaching

The following section describes the implementation of Active Teaching (AT), including discussions of the scope and intensity of implementation, LEA participation in MSDE training and planning events, time spent on the topic, roles and responsibilities of implementers, impact, and participant needs and concerns.

Scope and Intensity of Implementation

Of the 19 LEAs implementing one or more SITIP topics, five wrote initial proposals for AT and the same five completed PEPS* forms in the fall of 1981.

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*PEPS -- Promising Educational Practices Submittal -- a summary of a local plan describing eight elements. See the chapter on planning for a complete discussion.

During the first year of the project, all five of the counties involved in AT carried out the implementation strategy as planned in the fall of 1981 (See Tables 39 and 43).

Cecil used a pilot/district approach, focusing on four schools (elementary and middle) in basic skills. Central office staff were actively involved, encouraging but not mandating participation. Sixteen teachers used AT in 34 classes.

Garrett followed a lighthouse school strategy, so that effort concentrated in one high school, with seven teachers using AT in a variety of subjects.

Harford implemented AT in all elementary schools for mathematics, with teachers required to participate following an inservice conducted by central office staff in March.

In Montgomery, the lighthouse school used AT for basic skills, involving five teachers in grades 2 through 5. The topic was combined with TV, with the latter used as a data collecting method, and AT used as the teaching strategy.

St. Mary's followed a capacity building approach, with inservice conducted by those who had attended MSDE-sponsored training events. A single high school was involved, with ten teachers using AT for various subjects in 23 classes.

As can be seen in Table 43, the intensity of AT implementation varied among the five counties from four classes and five teachers in one school in one county to 434 classes and teachers in all the elementary schools in another county. The remaining three counties each implemented AT in one

Table 43

Scope and Intensity: Active Teaching

LEA	# Schools	Grades	# Teachers	# Classes	Subjects
Cecil	4	4, 6, 7, 8[1]	16	34	M, R/LA
Garrett	1	9-12	7	19	M, R/LA, SC, SS
Harford	26	1-6	434	434	M
Montgomery	1	2-5	5	4	M, R/LA
St. Mary's	1	9-12	10	23	M, R/LA, SC, SS
Totals	33	1-12	472	514	M, R/LA, SC, SS

M = Mathematics
R/LA = Reading/Language Arts
SC = Science
SS = Social Studies

[1]Emphasis on grades 4 and 7.

Note: Numbers are approximates.

to four schools. Across the five LEAs, 33 schools were involved, with 472 teachers using AT with approximately 514 classes in grades 1-12.

Even though the original model was field tested only in fourth grade mathematics classes (Missouri Mathematics), in Maryland AT was used in both elementary and secondary grades. Of the 472 teachers involved, 443 used AT in elementary grades (1 through 6), 12 used AT in middle grades (7-8), and 17 used AT in grades 9 through 12.

All five counties implemented AT in mathematics and some used it in other subjects.

LEA Participation in Planning and Training*

MSDE conducted three training and three planning activities for the counties interested in implementing AT (see Table 44). A larger percentage of the active implementers had been involved in two or more training events (34.78%) than in planning activities (26.08%) or in all six activities (17.39%). Sustained attendance for all six activities was best maintained by school administrators (of whom 71.43% were involved) followed by central office staff (with 28.57% of them participating in all six activities). Only one teacher was involved in all six events.

Ideally, for each county, each role group should have been represented in all six activities, and individual representation should have been sustained to maintain a sense of continuity and build a cross-hierarchical knowledge base and consensus about the topic and how it was to be implemented. At the minimum, each county should have involved representatives

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* Data not available for Harford County

Table 44

Attendance Patterns for Training and Planning Events:
Active Teaching (June 1982)

	Total Respondents		Training 2 or more Events	Planning 2 or more Events	All 6 Events
	N	%	%	%	%
Total	46	100	34.78	26.08	17.39
Central Office	7	100	57.14	71.43	28.57
School Administrators	7	100	85.71	85.71	71.43
Teachers	32	100	85.71	3.12	3.12

from all three role groups in at least two training and two planning activities. Insufficient representation could result in lack of commitment, misunderstanding of plans, and lack of understanding of the topic.

The following summarizes participation patterns: 1) In Cecil, there was insufficient teacher involvement in proposal preparation and spring planning, but several were involved in the final planning which probably compensated; 2) In Garrett, sustained involvement was best maintained by central office; 3) Harford was represented by central office staff in MSDE-initiated efforts, then used turnkey training to train teachers; 4) Montgomery had insufficient teacher and central office involvement, placing a heavy burden on the school administrator who sustained involvement in all activities; and 5) St. Mary's involved all three role groups adequately.

Overall, although MSDE recommended team involvement and although each LEA did involve a cross-hierarchical team, role groups tended to follow traditional behaviors, with administrators doing most of the planning and teachers more heavily involved in training.

Time Spent on the Topic

This section discusses time spent on AT during the first year of implementation. Time across the school year is discussed first, followed by a discussion of use of time in the classroom.

1981-82 Schedules. On average, AT was used by each teacher for just over three months. Some teachers from all the counties began using AT in September or October 1981, but the majority of Harford teachers started implementing in March 1982. Most teachers from all the counties used AT in their classrooms until June 1982.

Cecil, Garrett, and Montgomery counties accomplished their planned time period for implementation (see Table 39). Harford had planned to use AT for a nine-month period. Some of the teachers were asked to try AT in their classrooms as early as September 1981. However, official district-wide implementation was not required until after an inservice scheduled in January 1982. Inclement weather postponed the inservice until March 1982 which left only a three-month period for implementation. St. Mary's County did not indicate a planned time period for classroom implementation.

In the Classroom. Many teachers believed that AT required them to spend a given percentage of a lesson period on each of the activity components (e.g., reviewing homework), and they argued that such rigidity was a constraint, sometimes negatively influencing student needs. Other teachers believed that AT required that all components be implemented but that each did not a have specific allocated amount of time. (These different perceptions occurred as a result of training provided -- some teachers learning from AT developers, some from those trained by developers, and some from turnkey trainers.) Regardless of these differences, all AT teachers used

AT (all components) for a significant amount of time in the classroom -- between 50% and 80% of the time allocated for the selected subject.

Teachers implementing AT in mathematics used the instructional process during at least 80% of the allocated mathematics time. In other subject areas, teachers used AT for about 50% of the time allocated for that subject. This difference in the percentage of classroom time spent using AT was due to the fact that it is designed for structured learning activities, and is not perceived by teachers to be appropriate for more creative activities such as composition writing.

Asked whether AT required teachers to spend more time preparing students (e.g., grouping, pre-testing), respondents were unsure. They were also uncertain as to whether curriculum could be covered in a comparatively shorter amount of time.

Roles and Responsibilities

The SITIP design encourages involvement of a cross-hierarchical team, including: 1) central office staff, e.g., supervisors in instruction or coordinators of staff development; 2) school administrators, e.g., principals, vice principals, or department heads; and 3) classroom teachers. This section describes the people involved, what they did, and their relationship to each other from three perspectives: usual assigned roles, activities undertaken, and interactive support, with reference to level of effort and use of time for implementation of AT.

Usual Roles. Teachers, school-based administrators, and central office staff were all involved in AT. Of the ten central office staff actively involved in AT, seven had instructional responsibilities, two were primarily responsible for staff development, and one was a superintendent.

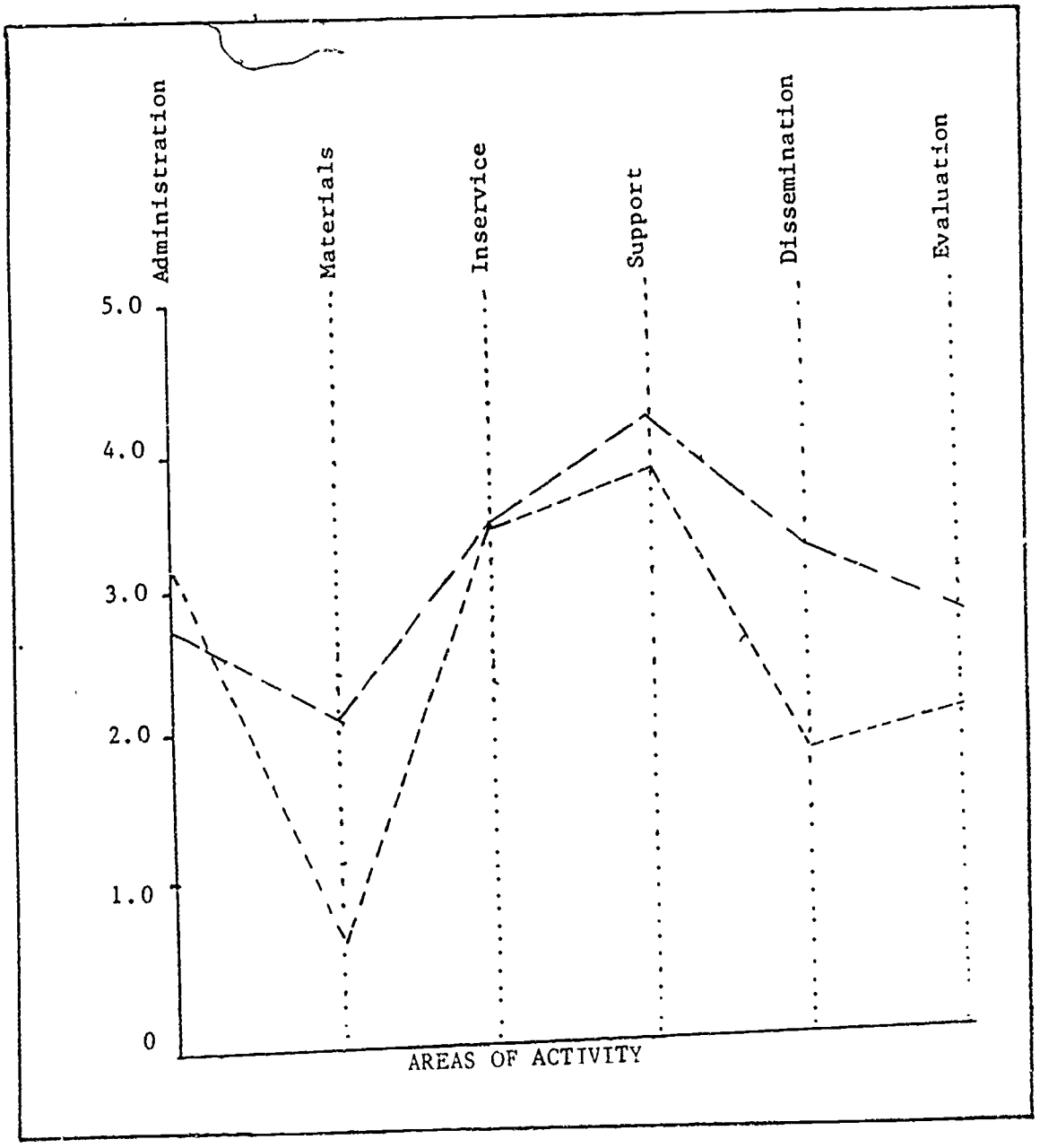
Montgomery County central office staff did not complete the general survey, but other data indicate that administrative responsibility for the project was shared between central office staff in staff development and instruction. All but one of the 34 school administrators involved in AT were principals, with four from secondary schools and 30 from elementary schools. Teachers (except in Montgomery) taught in self-contained classrooms, using AT for regular classes.

Activities and Levels of Effort. Each local superintendent committed cross-hierarchical teams for a two-year implementation period in addition to the training and planning activities of 1980-81. In general, traditional responsibilities were assumed by each role group. Six activity areas were identified, and central office staff and school administrators were asked to indicate level of effort (time and energy) spent on each (with responses ranging from 0 to a high of 6). The areas of activity were: 1) administration (including planning and budget); 2) development of materials; 3) designing and/or conducting inservice; 4) supporting school implementation (e.g., problem-solving, supplying materials, etc.); 5) dissemination; and 6) evaluation. (Mean ratings are presented in Table 45.)

Central office staff and school administrators spent similar levels of effort on administration, inservice and support, but school administrators spent more than central office staff on materials development, dissemination, and evaluation. Least effort was spent on materials development. An examination of individual responses indicates that within each county office (with the exception of Montgomery) at least one individual was involved in all six areas of activity. Most central office staff effort was spent on inservice and support, followed by administration. If other

Table 45

Level of Effort: Active Teaching



Central Office Staff

School Administrators

central office staff were involved, they helped this individual, most often in inservice and support, but also in evaluation, dissemination, and -- to some extent -- administration. Although most school administrators distributed their efforts in similar ways (focusing most on support, inservice, and dissemination within their own schools), three broke this pattern, indicating that they did very little in those three areas, two saying they did even less in the other three areas and one spending more effort on materials, evaluation, and administration.

All three role groups were asked to rate the amount of time required for AT in comparison to other projects in which they had been involved. On a scale from 1.00 (substantially less time) to 5.00 (substantially more time) they rated the following activities: 1) becoming informed about the topic (e.g., inservices, background reading, etc.); 2) interacting with other school personnel; 3) preparing and organizing curriculum and/or resource materials; 4) record keeping and documentation; and 5) evaluating student and/or project progress. In general, the AT implementers indicated that the instructional process required between the same amount and slightly more time compared with other strategies (see Table 46). Becoming informed about the project (3.70) and interacting with other school personnel (3.65) rated highest. Teachers found that all five activities required slightly more time (mean of 3.61), with becoming informed (3.66) and record keeping (3.65) rated highest. School administrators and central office staff found AT to require slightly more time in the areas of becoming informed (3.92 and 3.75 respectively) and interacting with other school personnel (3.72 and 4.29), whereas preparing and organizing materials (3.21 and 3.00), recording keeping (2.91 and 3.25), and evaluation (3.43 and 3.37) took

Table 46

Use of Time: Active Teaching

Activity \ Role	Central Office N=8	School Administrators N=24	Teachers N=128	Total N=160
Becoming informed	3.75	3.92	3.66	3.70
Interacting with school personnel	4.29	3.72	3.60	3.65
Preparing/organizing materials	3.00	3.21	3.59	3.50
Record Keeping	3.25	2.91	3.65	3.52
Evaluation	3.37	3.43	3.54	3.52

Mean ratings range from a low of 1.00 (substantially less time) to a high of 5.00 (substantially more time).

about the same amount of time to perform in comparison to other teaching strategies previously implemented.

Average ratings across the five activities for each of the counties indicated that all the counties found AT to require slightly more time to implement (3.52 and 4.00). Montgomery County gave the highest ratings (4.50) and these ratings were assigned to becoming informed about the project, interacting with other school personnel, and preparing and organizing materials.

Interactive Support. Although each LEA had a SITIP team, most AT planning and implementation activities were divided by role group: In general, central office staff did most of the training, school administrators (with central office staff in some counties) provided support by problem-solving and troubleshooting, and teachers learned the process and put it into practice. MSDE staff interacted most with central office staff. Developers interacted with LEA staff only at the Awareness Conference and Summer Institute.

Implementers were asked to rate the support received from each role group (from 1.00 very poor, to 5.00 excellent). As indicated in Table 47, for AT, central office staff were generally more positive in their assessment, rating all but the developers as good to excellent. Teachers most of whom did not interact with MSDE staff or developers, were in general, less positive. However, overall mean ratings indicate that each role group was perceived positively by peers and other role groups in terms of providing information, help, and general support.

Table 47

Perceptions of Support Received: Active Teaching

Topics & Respondents	N	Teachers	School Administrators	Central Office Staff	MSDE	Developers
Central Office	7	4.12	4.12	4.14	4.00	3.57
School Administrators	21	3.76	4.00	3.75	3.56	3.50
Teachers	98	3.45	3.67	3.66	2.88	2.96
Total	126	3.54	3.74	3.70	3.09	3.00

Mean ratings range from a low of 1.00 (very poor) to a high of 5.00 (excellent).

For implementation to be successful within a school, teachers and school administrators should be mutually supportive. For district-wide implementation (Harford, and to some extent, Cecil) support is needed between all three role groups with central office leadership. In both Cecil and Harford, mean ratings for all role groups ranged from 3.31 (teachers' ratings of school administrators in one county) to 4.67 (central office staff ratings of teachers and school administrators in the other county). All ratings in both counties indicated above average to excellent support. A school-based implementation strategy needs school-based leadership with central office support. In the two lighthouse schools, the school administrators rated the teachers' support more highly than the teachers rated the school administrators. In the third county (using a capacity building strategy in a single school), the situation was reversed. However, no rating was below 3.00 (average). In two of those LEAs, central office support was considered average by school administrators and good by teachers. In the third LEA central office support was rated as poor by both school administrators and teachers.

Summary. Tasks undertaken, effort spent, and interactive support were examined together to determine patterns of activity. Findings are summarized by task.

- Administrative tasks ranked third in level of effort, with both school administrators and central office staff within each LEA spending about the same amount of time. The type of implementation strategy influenced this task area very little for AT.

- Materials development required little investment from any role group, with least from central office staff and most from teachers.

- Inservice -- learning and training -- was a fairly time-consuming activity and was, on average, about equally demanding for all role groups. It was highest for school administrators and was also fairly high for one central office person in each of two LEAs (Cecil and Harford where turnkey training was used). Teachers in Montgomery found this task more time-consuming than they [illegible]d experienced for other projects.

- Support and interaction among role groups varied among role groups and among LEAs. Only in Harford did role groups have similar perceptions of the investment made (although there were differences between the 26 schools) and central office staff received highest ratings for their efforts. In general, although school administrators ranked this task highest in terms of level of effort it took only slightly more time than any other similar project and school administrators received the highest ratings for their efforts in the three school-based sites. With the exception of Montgomery teachers, no role group or LEA found this task highly demanding, and in that county teachers awarded average or below average ratings to LEA participants for their support.

- Dissemination was undertaken by school administrators more than by central office staff, but required little effort from either group.

- Record keeping and evaluation were more burdensome to teachers than to other groups, although school administrators in St. Mary's and Montgomery also invested relatively high levels of effort on these tasks.

In general, AT required little more effort to implement than other new projects.

Impact

This section discusses the impact of AT on instruction in general and more specifically, on teachers and students. Table 48 summarizes the responses given by AT implementers to several statements concerning impact.

Instructional Value. In general, the AT implementers agreed that the instructional process was worthwhile and that it was not more work than it is worth. These responses were fairly consistent across role groups and counties. Teachers were slightly less positive about the instructional value of AT in comparison to central office staff and school administrators.

The majority of LEA implementers indicated that the best aspect of AT was the organization or structure of the instructional process. The popularity of this aspect of AT was consistent across counties and role groups. Teachers from Cecil and Harford Counties also liked the immediate feedback on student progress provided by homework, guided practice, and seatwork, and the opportunity to review the skills and concepts that had been previously taught.

Some additional comments made by local educators during interviews and at the Follow-up meeting concerning the instructional value of AT indicated that there were increased time-on-task, and greater consistency between skills taught and homework assigned.

Impact on Teachers. The mean responses in Table 48 indicate that teachers enjoyed AT and had acquired additional knowledge and skills as a result of AT implementation. The LEA implementers felt that AT helped teachers become better organized. Central office staff and school administrators from all the counties except Garrett mentioned teacher involvement as a positive aspect of AT.

To open-ended questions, 41.6% of the teachers expressed a dislike for the inflexibility of the AT method, and 17.6% of the teachers disliked the amount of record keeping. These responses were consistent across the

Table 48

Impact of Active Teaching as Perceived by Active Implementers (June 1982)

Areas of Impact / Role N =	Central Office	School Administrators	Teachers	Total
Instructional Value				
Is it worthwhile/workable.	4.67	4.48	4.28	4.33
Is it more work than it's worth.	1.56	1.70	2.06	1.97
Impact on teachers				
Ts enjoy it.	3.89	3.21	3.60	3.65
Ts gain knowledge.	4.11	3.93	3.53	3.63
Ts increase skills.	4.33	3.96	3.65	3.74
Impact on students				
Ss enjoy it.	3.89	3.67	3.82	3.80
Ss are more involved in work.	4.44	4.30	3.82	3.93
Ss increase achievement.	3.50	3.62	3.50	3.52
Time				
Ts spend more time preparing Ss.	3.11	2.81	2.71	2.75
Ts cover curriculum in less time.	3.11	3.00	2.93	2.95

NOTE: Mean ratings range from 1.00 (strongly Disagree) to 5.00 (Strongly Agree).

counties except for the Montgomery teachers who did not express a dislike for record keeping.

Impact on Students. LEA implementers indicated that students enjoyed AT, were more motivated and involved in their work, and remembered more of what they had been taught. However, 21.74% of the implementers did not like the lack of allowance for student differences which they perceived as a weakness in the AT model.

Many implementers believed that there had been an increase in student achievement as a result of AT, but some were not sure since very little testing had been done. Implementers indicated that the basis for their opinion about AT impact on student achievement was acquired through pre/post tests, teacher-made tests, book tests, and observation.

Summary. In general, AT has had an impact on both teachers and students. Teachers are better organized and have a better understanding of their students' progress. Students are motivated and actively involved in learning. Time-on-task has increased as well as student achievement. Central office staff and school administrators felt that teachers are more motivated and involved in teaching. However, implementers consider the AT method to be rigid in terms of teaching style, and inflexible in allowing for student differences. It is difficult to use in multi-group situations (although Cecil County had developed a way to use AT with two groups) and with more creative or open-ended subjects or lessons. Some teachers also felt that the AT process may hold back the higher ability students.

Participant Needs and Concerns

Needs and concerns were directly expressed by respondents to the General Survey which included the SoCQ (Stages of Concern Questionnaire),

and open-ended questions inviting identification of issues to be resolved. Also, needs and concerns were identified during interviews and observations. The following discussion presents SoCQ results, and then reviews issues.

SoCQ. As discussed in the chapter on training in this report, AT participants were somewhat doubtful about their readiness to put the research into practice following the Summer Institute. By June 1982, the picture had changed (see Table 49). In examining the results, it is important to remember that a large percentage of teachers (over 75%) and school administrators (over 50%) were from Harford County and had been introduced to AT after the Summer Institute. Therefore, no comparisons from 1981 to 1982 are made here: results are simply described.

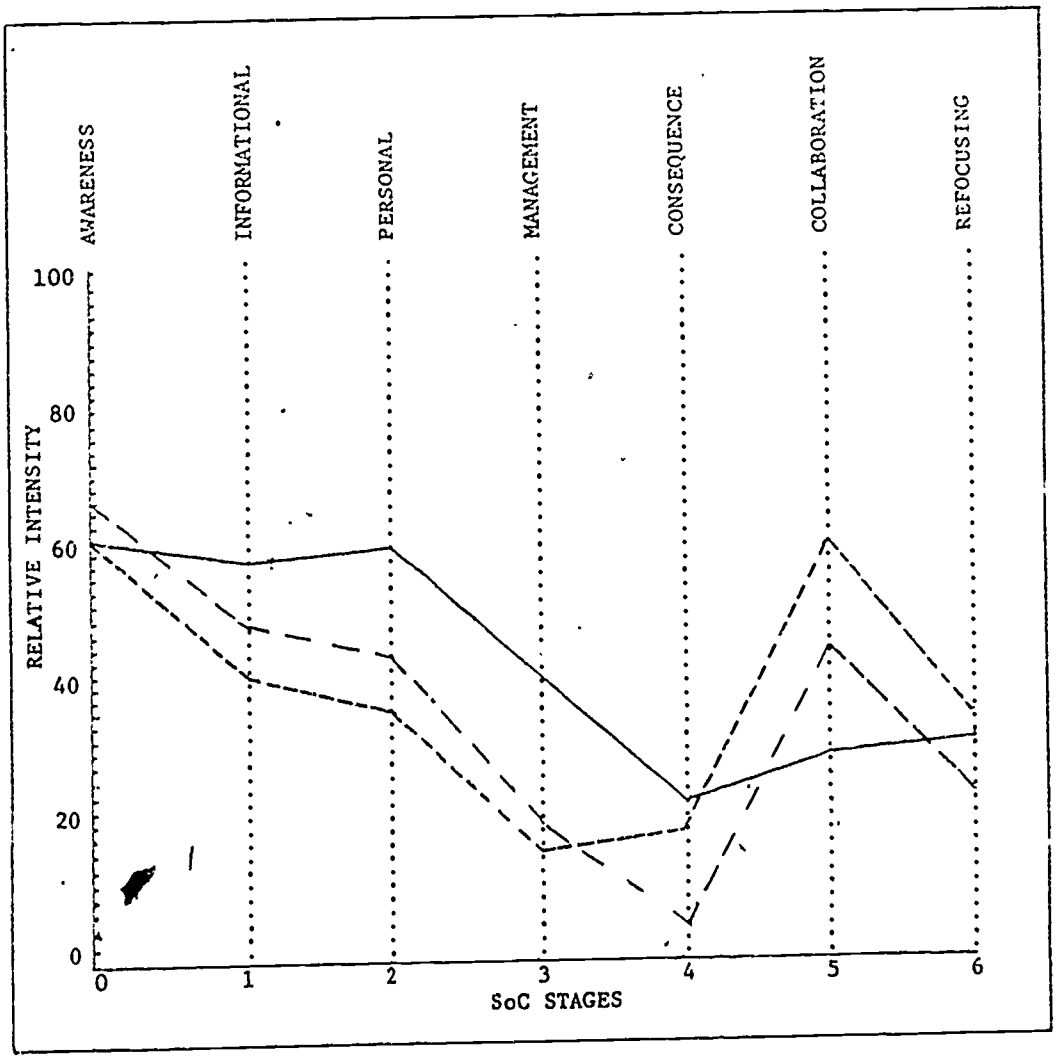
Overall, the profile is relatively low, with the most obvious interest collaboration -- learning what others are doing and sharing ideas with each other. The highest area of need relates to teachers' personal concerns influenced by information and awareness dimensions. These results indicate that teachers need clarification about AT, particularly in the way it impacts their own activities. The tilt on awareness suggests that commitment needs to be sustained for all three role groups, but this is not a major worry. Once personal and informational concerns are dealt with, participants should begin to attend more to consequences -- impact of AT on their students.

In general, the SoC profile for AT is positive, indicating active implementation, with some affect concerns but no suggestion of decrease in effort.

Issues. Although some participants made no recommendations, others made several, with a total of 133 statements, 22.56% of which recommended

Table 49

SoCQ Responses, June 1982: Active Teaching



teachers

central office

school administrators

"no change" and 9.02% of which recommended expansion to other schools or classes. Inservice and information materials were given as future needs in 12.78% of the responses, with one person calling for training by the topic developer. By far, the greatest percentage of responses (38.03%) recommended changes in classroom implementation of AT. There were three concerns, each expressed about as often as the others:

- Specific time allocations for the lesson components of AT are too inflexible and teachers want to be allowed to modify them.
- The lesson development component of AT presents difficulties for some teachers, suggesting a need for (individual) on-site problem-solving.
- Student grouping, or finding ways to take care of the needs of certain groups of students, are not built into AT, and teachers need help (not in Cecil County).

A fourth area, identified by a few respondents related to the review component of AT, particularly the homework review. However, the exact nature of the concern is not clear.

Summary. Needs and concerns for AT relate primarily to the teachers' role in the classroom, particularly the extent to which they feel constrained by the topic to work against the best interests (as perceived by the teacher) of different student groups, and to follow a given schedule within a lesson period. Teachers do find AT useful and do want to continue using it, but need the support of school administrators and central office staff to clarify requirements of the topic and find mutually acceptable solutions to perceived problems.

Summary of Active Teaching Implementation

Active Teaching was implemented in five LEAs in 3? schools by 472 teachers with students in all grade levels. Most classes were in elementary mathematics. AT was used between 50% and 80% of the allocated time

for the subject selected for between three and nine months, with most teachers using the process for just over three months.

With the exception of one county, all LEAs attempted to involve all three role groups (and sustain that involvement) in planning and training activities initiated by MSDE. However, teachers were least involved in planning (particularly in Cecil and Montgomery Counties), and school administrators in Garrett County were not sufficiently involved in planning or training. (Data are incomplete for Harford, but all but one or two of the large number of teachers using AT -- 434 -- were not involved in planning and training initiated by MSDE.)

AT required very little more time to implement than other teaching strategies, with most time spent on training and support (problem-solving), and interacting with others in the process. Few materials were needed, and little extra time was spent on evaluation. With one exception, interactive support within each county was perceived by participants as average to excellent.

The greatest value of AT was the organization and structure it provided for instruction. This was also sometimes perceived as a drawback when teachers believed that the structure prescribed specific allocations of time for each AT component. Another positive feature was immediate feedback (for teachers and students) on student practice provided through the regular review. Student achievement (mostly determined by class tests) appeared to have improved, and students were more actively involved in learning. However, some teachers felt that AT did not meet the needs of high ability students and was not appropriate for creative or open-ended lessons or subject areas.

Needs and concerns related to issues mentioned above -- perceived inflexibility of AT, needs of particular student populations, and how best to conduct the lesson development component. These classroom implementation issues are reflected by SoC data which suggest that teachers need an opportunity for problem-solving in order to overcome personal concerns. Also, clarification is needed as to whether or not (and if so, what) component time allocations are required.

The above is a general summary across sites. Below, each county is discussed separately.

- Cecil, using a pilot/district approach, had central office leadership and good involvement of the pilot school administrators (with one exception). Teachers, represented at three of the six MSDE events, understood what was being done. Commitment and communication appeared to be appropriate for local objectives. There is clear support for expansion to other sites, but the pilot teachers need an opportunity to clarify the lesson development component and areas of potential flexibility.

- Garrett, using a lighthouse strategy, had central office support, with leadership by an advocate with a dual role (central office and school). Teachers and school administrators, somewhat under-represented in planning, appear to be working hard to make AT succeed. Flexibility of the model needs to be discussed, as does inservice (possibly for other sites.)

- In Harford, AT was mandated for mathematics, with elementary school implementation initiated district-wide in March 1982. The central office coordinator developed training materials and trained other central office staff who in turn conducted training in the elementary schools. With this large-scale effort there was less participation of implementers in planning and in training conducted by AT developers. There was some evidence that commitment and level of understanding of AT may be low for some teachers, especially in the one or two schools where administrators have provided little support. Opportunity is needed for teachers to clarify AT requirements and engage in problem-solving to overcome perceptions of rigidity and to improve lesson development, review, and student grouping. With such large numbers involved (and more to be added), commitment, communication, and a consensus for clarity of the topic and how it is to be implemented are extremely important and turnkey trainers might need to review issues together before individually working with teachers.

- Montgomery, using a lighthouse approach, had a school-driven project, with leadership by the school principal (the only person sustaining participation in AT planning and training activities). Interaction between central office and school was primarily for administration of the project (budget, etc.). Interaction between the principal and teachers was mostly training and support, and appeared to take more time than in other LEAs. Teacher commitment appeared to be comparatively low (possibly influenced by their lack of interaction with peers from other counties in planning and training events). Expressed needs relate to flexibility, consideration of cost-effectiveness, and training conducted by developers.

- St. Mary's has used a capacity building strategy (staff development) within a single school, involved all role groups in planning and training, and appeared to have developed a team approach to sharing the work load, with a school administrator primarily responsible for coordination. Record keeping was perceived as somewhat burdensome, and there is some need to address perceived rigidity of AT, and ways in which to improve the lesson development component.

Although Harford began somewhat later than intended, all other elements of all other local plans for the first year of AT implementation were carried out as specified in the PEPS. In general, the time, effort, energy, and enthusiasm of local implementers illustrated a high degree of commitment and resulted in changes in instructional practice in keeping with the design of Active Teaching.

Mastery Learning

The following section describes the implementation of Mastery Learning (ML) by the participating school districts and includes discussions of the scope and intensity of implementation, LEA participation in MSDE training and planning events, time spent on the topic, roles and responsibilities of implementers, and participant needs and concerns.

Scope and Intensity of Implementation

Of the 19 LEAs implementing one or more SITIP topics, six wrote initial proposals for ML and the same six completed PEPS* forms for ML in the fall of 1981.

During the first year of the project, all six of the counties involved in ML carried out their implementation strategies as planned in the fall of 1981 (see Tables 40 and 50).

Allegany used a lighthouse school approach in one school, grades K through 12 in a variety of subjects. Twenty-seven teachers used ML in approximately 22 classes.

Anne Arundel County followed a lighthouse school strategy with four teachers in one high school using ML in biology.

Baltimore City used a pilot/district approach, implementing ML in 15 curricula areas in one high school with approximately 40 teachers. Baltimore City has a five-year plan for district-wide implementation of ML. The pilot high school which was selected as the SITIP site will serve as the model for a school-based staff development approach to ML and will help to disseminate the ML instructional process to the other schools in the district.

In Baltimore County, the lighthouse school used ML for mathematics, involving three teachers in grades 3 and 4. The PEPS plan called for TV to be used in support of ML, but for a variety of reasons, this was not done.

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*PEPS -- Promising Educational Practices Submittal -- a summary of a local plan describing eight elements. See the chapter on planning for a complete discussion.

Howard County followed a lighthouse school strategy in a single middle school with two sixth grade teachers using ML in reading/language arts and social studies.

Worcester County used a lighthouse school approach in one elementary school with five teachers using ML in grades 1 and 2 and in mathematics.

As can be seen in Table 50, the scope and intensity of ML implementation varied among the six counties from two teachers to 40 teachers, from one grade level to all grade levels, and from one subject to fifteen curricular areas. Across the six LEAs, six schools were involved, with 81 teachers using ML in approximately 93 classes in grades K-12.

ML was used in only one school in each of the six counties. Two elementary, one middle, two high schools, and one K-12 school were involved. ML was used for mathematics in four counties, for reading/language arts in three counties, for science in three counties, and for social studies in three counties. Two counties used ML in other subject areas in addition to the four listed above.

LEA Participation in Planning and Training

MSDE conducted three training and three planning activities for the counties interested in implementing ML (see Table 51). A larger percentage of ML respondents had been involved in two or more training events (37.33%) than in planning activities (36%) or in all six activities (9.33%). Sustained attendance for all six activities was best maintained by school administrators (of whom 37.5% were involved) followed by central office staff and teachers (with 12.5% and 5.08% of them respectively participating in all six activities).

Table 50

Scope and Intensity: Mastery Learning

LEA	# Schools	Grades	# Teachers	# Classes	Subjects
Allegany	1	K-12	27	22	M, R/LA, SC, SS, Other
Anne Arundel	1	9, 10	4	4	SC
Baltimore City	1	10-12	40	57	15 curricula areas
Baltimore Co.	1	3, 4	3	3	M
Howard	1	6	2	2	R/LA, SS
Worcester	1	1, 2	5	5	M
Totals	6	K-12	81	93	M, R/LA, SC, SS, Other

M = Mathematics
R/LA = Reading/Language Arts
SC = Science
SS = Social Studies

Note: Numbers are approximates.

Table 51

Attendance Patterns for Training and Planning Events:
Mastery Learning (June 1982)

	Total Respondents		Training 2 or more Events	Planning 2 or more Events	All 6 Events
	N	%	%	%	%
Total	75	100	37.33	36	9.33
Central Office	8	100	25	50	12.5
School Administrators	8	100	75	75	37.5
Teachers	59	100	33.90	28.81	5.08

Ideally, for each county, each role group should have been represented in all six activities, and individual representation should have been sustained to maintain a sense of continuity and build a cross-hierarchical knowledge base and consensus about the topic and how it was to be implemented. At the minimum, each county should have involved representatives from all three role groups in at least two training and two planning activities.

The following summarizes participation patterns for the counties involved in ML: 1) Allegany central office staff, school administrators, and teachers were appropriately represented in both training and planning activities and at least one member from each role group was involved in all six activities; 2) central office staff from Anne Arundel were under-represented, indicating that implementation was driven by the school administrator who participated in all six activities, and the teachers who were represented in two training and two planning activities; 3) Baltimore City role groups were appropriately represented at both training and planning activities

with at least one member from each group participating in all six activities; 4) in Baltimore County, teachers were not appropriately represented in planning activities, and none of the role groups maintaining continuity of participation across all six activities; 5) Howard County central office staff, school administrators and teachers were appropriately represented at both training and planning activities, but none of the participants attended the 1982 Follow-up and none went to all six activities; and 6) all role groups from Worcester County were appropriately represented in training and planning, but no educator maintained participation across all six activities.

Overall, all LEAs except Baltimore County involved cross-hierarchical teams in at least two training and two planning activities. Only Allegany and Baltimore City had at least one member from each role group participating in all six activities. School administrators were more heavily involved in planning than central office staff and teachers. Central office staff were more heavily involved in planning than were teachers, whereas the opposite was true for training.

Time Spent on the Topic

This section discusses time spent on ML during the first year of implementation. Time across the school year is discussed first, followed by a discussion of use of time in the classroom.

1981-82 Schedules. All counties had started using ML in the classroom by February 1982. The majority of respondents began implementation in October 1981. Some teachers from each county except Howard were using ML in May and June 1982. The majority of respondents ended implementation in June. Teachers in Baltimore County and Worcester began using ML in the

classroom in September and continued until June. Teachers in Anne Arundel started implementing in January and ended in June. Howard County used ML in the classroom during February and March. Teachers from Allegany began implementing between October and February and terminated implementation anywhere between December and June. Starting and ending dates for Baltimore City implementation ranged from September to May.

Anne Arundel, Baltimore County, Howard, and Worcester accomplished their planned time period for implementation (see Table 39). Allegany and Baltimore City did not indicate on the PEPS form a planned time period for classroom implementation.

In the Classroom. Once implementation began, the majority of teachers used ML 100% of the time allocated for the selected subject during the implementation period. However, the implementation period varied from one LEA to another. Teachers from Baltimore County and Worcester used ML to teach all units in the designated subject area for the entire school year. Anne Arundel teachers used ML to teach all biology units between January and June. Teachers in Allegany taught one unit using ML during the first semester and two units during the second semester. The Baltimore City goal was for each discipline to use ML to teach at least three units by the end of the school year: in general, teachers completed two units each. In Howard County two teachers used ML to teach one unit during the 1981-82 school year.

Asked whether ML required teachers to spend more time preparing students (e.g., grouping, pre-testing), respondents agreed. In general, the respondents also felt that ML did not allow the teacher to cover

curriculum in less time. However, school administrators and teachers were less sure about how to respond to the statement on curriculum coverage than were central office staff. Many teachers felt that although less curriculum may have been covered, the curriculum that was covered was taught more thoroughly and was retained by more of the students.

Roles and Responsibilities

The SITIP design encourages involvement of a cross-hierarchical team including: 1) central office staff, e.g., supervisors in instruction or coordinators of staff development; 2) school administrators, e.g., principals, vice principals, department heads; and 3) classroom teachers. This section describes the people involved, what they did, and their relationship to each other from three perspectives: usual assigned roles, activities undertaken, and interactive support, with reference to level of effort and use of time for implementation of ML.

Usual Roles. Of the ten central office staff actively involved in ML, four had instructional responsibilities, three were Project Basic coordinators or facilitators, one was primarily responsible for staff development, one was in research and evaluation, and one was responsible for curriculum. Anne Arundel central office staff did not complete the General Survey. Of the seven school administrators actively involved in ML, two were from high schools, one was from a junior high/middle school, three were from elementary schools, and one was from a K-12 school. Four school administrators were principals, one was a department head, one a curriculum planner, and one a teacher with special responsibilities. These last three are referred to as teacher-coordinators in the narrative that follows.

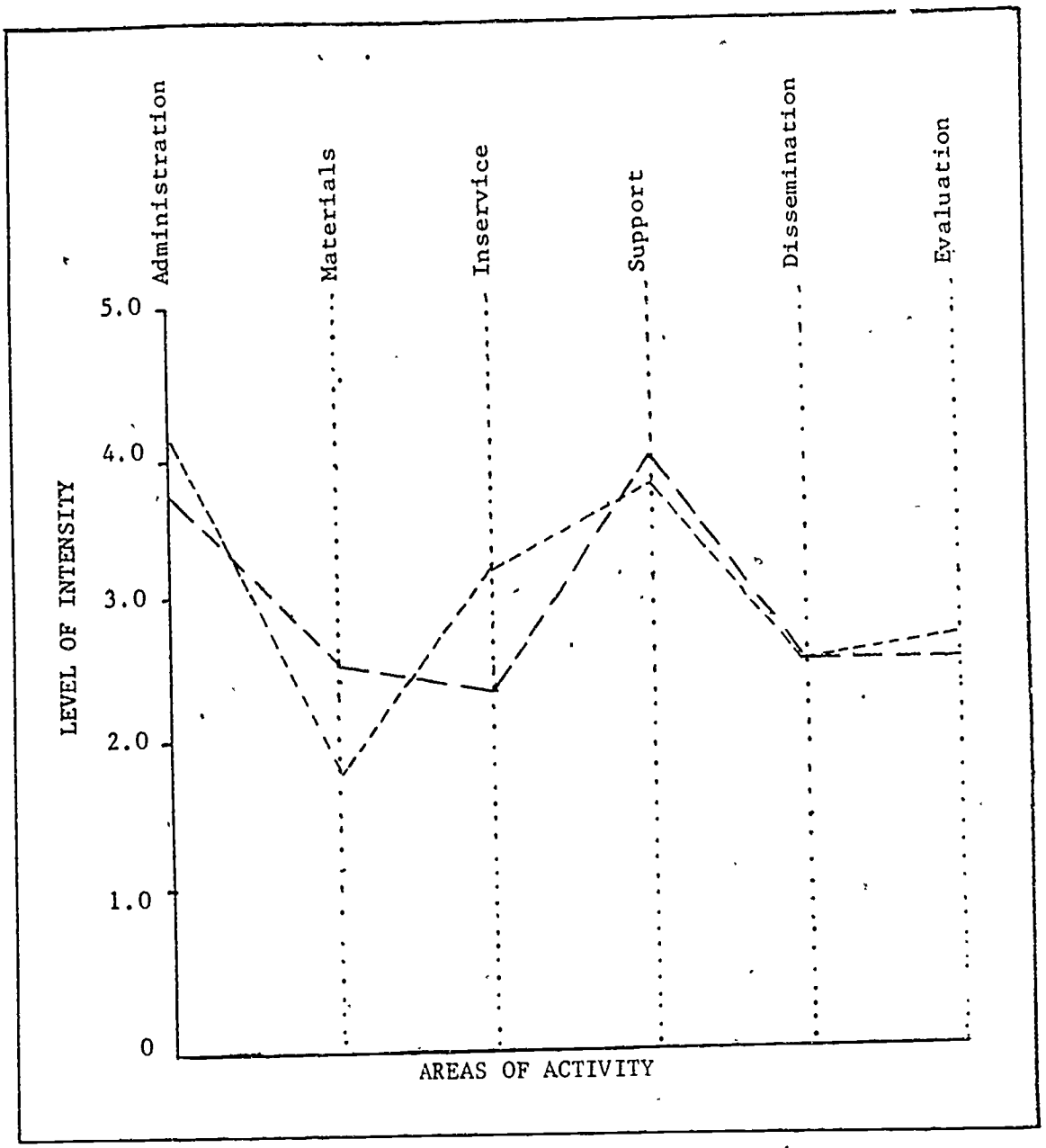
Activities and Levels of Effort. Each local superintendent committed cross-hierarchical teams for a two-year implementation period in addition to the training and planning activities of 1980-81. In general, traditional responsibilities were assumed by each role group. Six activity areas were identified, and central office staff and school administrators were asked to indicate level of effort (time and energy) spent on each (with responses ranging from 0 to a high of 6). The areas of activity were: 1) administration (including planning and budget); 2) development of materials; 3) designing and/or conducting inservice; 4) supporting school implementation (e.g., problem-solving, supplying materials, etc.); 5) dissemination; and 6) evaluation. (Mean responses are presented in Table 52.)

Central office staff and school administrators spent similar levels of effort on all areas of activity except materials development (in which school administrators were more involved) and inservice (in which central office staff were more involved). Most effort was spent on support and least on materials development. Specific LEA results influence the means presented in Table 52:

- For administration, if central office staff put in more effort, school administrators did less, instead spending time on support to teachers.
- Materials development was relatively high for only once central office respondent (Baltimore County), and two school administrators (Baltimore City and Worcester).
- Inservice took more time for central office staff.
- With the exception of one person from each role (each in a different LEA), all respondents invested energy in supporting school efforts.
- Dissemination and evaluation tasks were dealt with similarly between role groups and across counties except that in one county

Table 52

Level of Effort: Mastery Learning



(Howard) neither activity was done by central office staff or school administrators.

All three role groups were asked to rate the amount of time required for ML in comparison to other projects in which they had been involved. On a scale from 1.00 (substantially less time) to 5.00 (substantially more time), the ML implementers indicated that the instructional process required more time compared with other strategies (see Table 53). Teachers found that all five activities required more time (mean of 4.30), with preparing and organizing materials (4.45) and record keeping (4.2.) rated highest. Central office staff found ML to require more time in becoming informed (4.25) and in interacting with other school personnel (4.13) but about the same amount of time as other strategies in preparing and organizing materials (2.71), record keeping (3.12), and evaluation (3.13). School administrators rated all the activities as requiring more time (mean of 4.28) with interaction with school personnel rated highest (4.63).

Average ratings across the five counties indicated that all the counties found ML to require more time to implement (4.14 to 4.30) with Anne Arundel, Howard, and Worcester Counties giving the highest ratings.

Interactive Support. Each of the six LEAs had a SITIP team and in all six a single school was involved, which meant that most activities were school-based, and often school-initiated. In three cases, ML was coordinated by a school-based person. Since most participants had been involved in MSDE-initiated training, little training was done within an LEA. In most cases training and support were provided by school-based staff (teacher/coordinators or school administrators) with some support from central office staff. However, the latter group were primarily responsible for

Table 53

Use of Time: Mastery Learning

Activity \ Role	Central Office N=8	School Administrators N=8	Teachers N=56	Total N=72
Becoming informed	4.25	4.38	4.27	4.27
Interacting with school personnel	4.13	4.63	4.21	4.25
Preparing/organizing materials	2.71	4.00	4.45	4.23
Record Keeping	3.12	4.25	4.42	4.25
Evaluation	3.13	4.13	4.14	4.03

Mean ratings range from a low of 1.00 (substantially less time) to a high of 5.00 (substantially more time).

project administration and support for organizational problem-solving such as arranging for common planning time, test scoring, etc. Teachers and coordinators did most of the work relating to materials development -- aligning the curriculum to objectives and developing formative and summative tests. That being the case, it was important for teachers to be supported by school or central office administrators -- both in terms of time to work together and in terms of acknowledgement and encouragement of their efforts. Where such support was perceived as inadequate by teachers, changes had to be made by administrators if implementation was to be successful. (This occurred in one county in March, initiated by teachers' request and facilitated by the MSDE TA.)

Implementers were asked to rate the support received from each role group and from MSDE and topic developers (from 1.00 very poor to 5.00 excellent, with 3.00 as average). As indicated in Table 54, for ML, central office staff and school administrators were generally more positive in their assessment, rating all groups between 4.00 and 5.00. Teachers were, in general, less positive, rating the groups between 3.00 and 4.00. Central office staff gave the highest rating of support to teachers; school administrators gave their highest rating to central office staff; and teachers indicated that school administrators had provided the most support.

Ratings of teacher support by central office staff were between 4.00 and 5.00 in all the counties. School administrators rated teacher support between 4.00 and 5.00 in five out of six of the counties with a rating of 3.50 in one county. Teachers were, in general, less positive in their ratings of support from fellow teachers with two LEAs giving ratings of less than 3.00.

Table 54

Perceptions of Support Received: Mastery Learning

Topics & Respondents	N	Teachers	School Administrators	Central Office Staff	MSDE	Developers
Central Office	7	4.43	4.14	4.00	3.71	4.14
School Administrators	8	4.25	4.67	4.75	4.50	4.50
Teachers	53	3.39	3.59	3.11	3.13	3.14
Total	68	3.59	3.75	3.39	3.35	3.40

Mean ratings range from a low of 1.00 (very poor) to a high of 5.00 (excellent).

Central office staff and school administrators from all six counties gave above average ratings of support from school administrators. However, teachers from two counties rated principal support below average. This same pattern was repeated for ratings of support from central office staff. The teachers from one LEA gave below average ratings to all three role groups, and teachers from another LEA rated teacher and school administrator support as below average.

Summary. Assigned roles, tasks undertaken, and effort spent were examined together to determine patterns of activity. Findings are summarized by task:

- Overall administration was a major responsibility of a single individual in two LEAs (Allegany, and Anne Arundel, with the latter school-based), but shared by three or four county and school-based staff in three other LEAs, and shared between two central office staff in one LEA. The overall effort spent on administration seemed appropriate, with the exception of Worcester which seemed high given the nature of the local plan.

- Materials development was the primary task of teachers, with high involvement from teacher coordinators in Baltimore City, Anne Arundel, and Worcester.

- Inservice -- either attending to learn or conducting training -- was about equally demanding for all role groups. In the two LEAs

where only a few of the participating teachers had attended MSDE training, inservice was conducted by an ML expert (Allegany) and by the teacher coordinator with central office assistance (Baltimore City). In other LEAs participants were trained by MSDE.

- Support and interaction among role groups varied slightly from one LEA to another, but role groups within a district had similar perceptions of the effort needed. The highest combined effort was in Baltimore City, and the lowest Howard -- patterns reflecting the local plans, time lines, and scope of implementation. School-based coordinators and/or principals provided support to teachers by arranging for common planning time, obtaining information and materials, and maintaining on-going interest in and acknowledgement of teachers' efforts (e.g., Allegany, Anne Arundel, Baltimore City, Worcester). Central office staff supported principals and linked the school project to LEA interests (e.g., Allegany, Baltimore City, Baltimore County). In some cases the latter group also provided concrete support by arranging for computerized record keeping (Baltimore City).

- Dissemination within a school occurred in Allegany and Baltimore City, by the principal in both cases plus the coordinator in the latter case, but at a low level of effort.

- Record keeping and evaluation demanded more of teachers than they were used to, and were also fairly demanding tasks for coordinators in the three LEAs that included that role. One central office person in Allegany and Baltimore County also found these tasks demanding.

The school-based coordinator role was important, and compensated for relative lack of involvement by principals or central office staff, or (in Baltimore City) took on a workload that would have been burdensome for the principal and difficult for central office staff to accomplish. This role -- providing democratic leadership and taking care of logistics as well as working hand-in-hand with teachers -- was assumed by the principal in Allegany (and partly shared with two key teachers), but in Baltimore County and Howard it appeared that the teachers teamed to take on the tasks.

These patterns of roles and responsibilities were reflected in participant ratings of support.

Impact

This section discusses the impact of ML on instruction in general and, more specifically, on teachers and students. Table 55 summarizes the responses given by ML implementers to several statements concerning impact.

Instructional Value. In general, the ML implementers agreed that the instructional process was worthwhile. However, they were less sure about whether the process was worth the amount of time and effort that was necessary for implementation. Teachers were especially unsure in their response to the statement that ML is more work than it is worth. Looking across the individual counties, mean responses to this statement ranged from 2.00 to 3.80 (1.00 strongly disagree, 3.00 not sure, 5.00 strongly agree). Since ML is a complex innovation requiring time for planning, materials development, and record keeping, it could easily be perceived by teachers as requiring too much work for the benefits received. However, implementers, when interviewed during site visits, felt that even though ML required a great deal of preparation time, students were doing better and were, in general, more enthusiastic about what they were learning, thus making the extra preparation worthwhile.

The majority of LEA implementers indicated that the instructional value of ML lies in the organization and effectiveness of the instructional process. ML helps teachers to develop well organized and effective lesson plans. Implementers described ML as focused and practical. Several of the local educators indicated that they liked the philosophy behind ML, that all children can master a given concept if given the chance. Implementers, especially teachers, disliked the amount of planning and record keeping

Table 55

Impact of Mastery Learning as Perceived by Active Implementers (June 1982)

Areas of Impact / Role N =	Central Office	School Administrators	Teachers	Total
Instructional Value				
Is it worthwhile/workable.	4.37	4.81	3.89	4.05
Is it more work than it's worth.	2.75	2.38	3.00	2.90
Impact on teachers				
Ts enjoy it.	4.00	4.13	3.48	3.61
Ts gain knowledge.	4.63	4.63	3.63	3.85
Ts increase skills.	4.25	4.50	3.49	3.69
Impact on students				
Ss enjoy it.	4.00	4.38	3.74	3.84
Ss are more involved in work.	3.75	4.13	3.53	3.62
Ss increase achievement.	3.56	3.93	3.37	3.46
Time				
Ts spend more time preparing Ss.	4.37	4.00	3.87	3.94
Ts cover curriculum in less time.	2.50	2.87	2.86	2.33

NOTE: Mean ratings range from 1.00 (strongly Disagree) to 5.00 (Strongly Agree).

required by ML and mentioned how the structure of the method can be a problem when student attendance patterns are irregular.

Impact on Teachers. The mean responses in Table 55 to the statements pertaining to the impact of ML on teachers were positive, indicating that teachers enjoyed ML (3.61), and had acquired additional knowledge and skills as a result of ML implementation (3.85 and 3.69 respectively). Teachers were less positive in their responses to these statements of ML impact on teachers than were central office staff and school administrators. Educators from Howard County were more positive about ML impact on teachers than were the educators from the other counties.

LEA implementers felt that ML enhanced the professional development of teachers, helped teachers to become better organized, and increased cooperation between teachers and school administrators and central office staff. However, teachers disliked the amount of time ML required, especially in the areas of planning, record keeping, and materials development. Teachers in two counties felt a lack of support from school administrators and central office staff. Teachers commented on the need for support from school administrators for planning time and for the opportunity to interact with other teachers using ML.

Impact on Students. LEA implementers indicated that students enjoyed ML and were more involved in their work. Respondents were less sure about whether ML increases student achievement, and teachers were less certain in their responses about ML impact on students than were central office staff and school administrators. Worcester County educators were more positive in their responses to the impact of ML on students than were educators from

the other counties. Teachers commented upon how students were more involved in the lessons and were more positive in their attitudes toward school. Students liked the second chance that they received on summative tests. However, implementers felt that ML held back the higher ability students and was, therefore, more effective when teaching a homogeneous group of students.

The majority of respondents indicated that student achievement had increased as a result of ML. Baltimore County estimated student gains as twice those expected. However, several educators were not sure about the amount of student achievement gains, since no formal assessment had been done. Most teachers had used their own tests to measure the impact of ML on student achievement. Teachers from two out of three of the pilot site counties reported that their students were achieving the mastery goals that had been set by the individual counties.

Summary. In general, ML has had an impact on both teachers and students. Teachers are better organized and students are more involved in learning. However, ML requires a great deal of preparation on the part of teachers and support from school administrators in order to make it work. Teachers believe that ML is not equally applicable in all subject areas, and can hold back higher ability students.

Participant Needs and Concerns

The following discussion presents results of the Stages of Concern Questionnaire (SoCQ) and reviews needs and concerns identified through surveys, interviews, and observations.

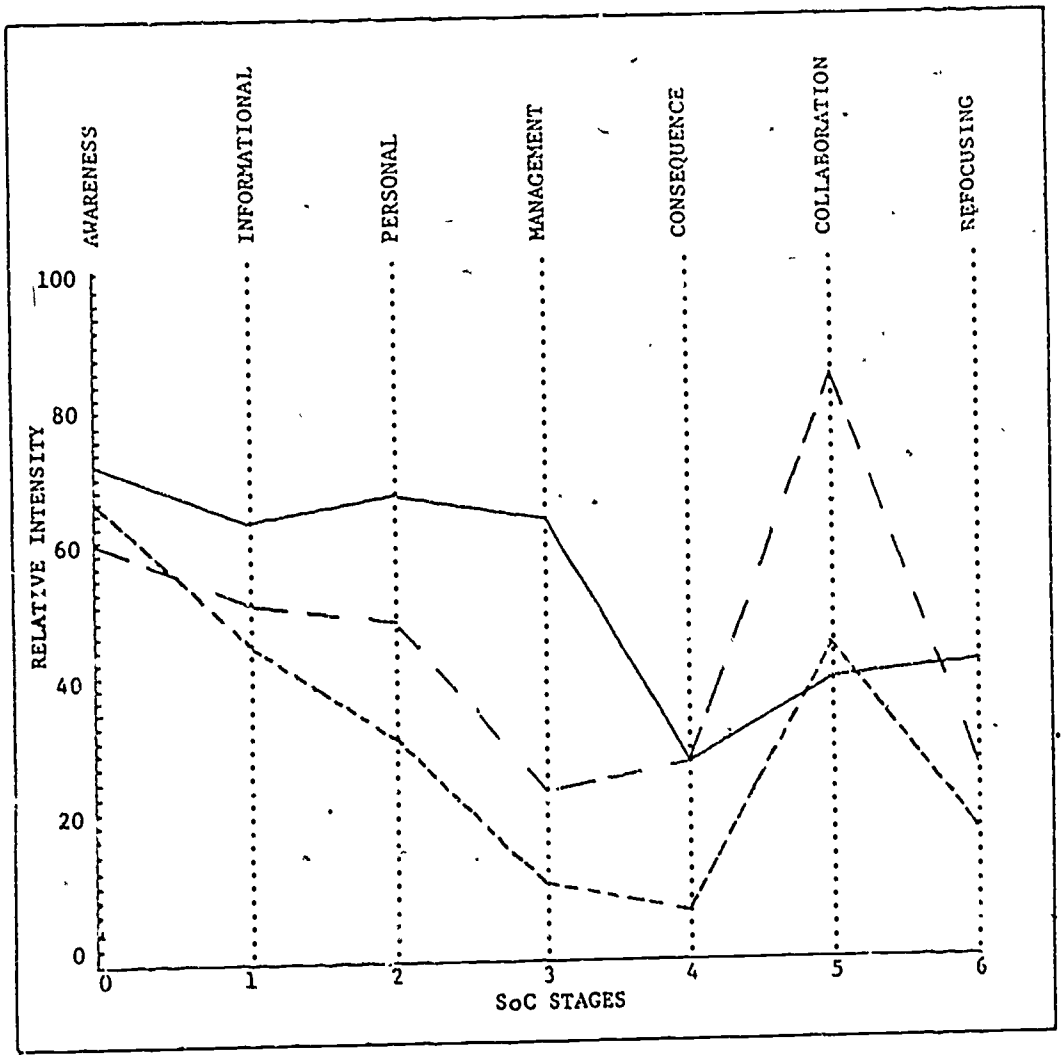
SoCQ. As discussed in the chapter on training in this report, ML participants were fairly well prepared for implementation by the end of the Summer Institute, although teachers' personal concerns were rather high. By June 1982, patterns of concerns had changed a little (compare Tables 21 and 56). In 1982, concerns were higher on awareness, and lower on consequences and collaboration, although the overall profile did not change a great deal. Since many of the 1982 respondents had become involved after the Summer Institutes, there are few surprises in these data. Of most interest is the relatively low collaboration concern, suggesting little interest in what others are doing.

Examination of Table 56, in comparison to Table 17, identifies differences among role groups, all three of which changed from 1981 to 1982. The most significant changes for teachers related to consequences and collaboration: attention to management and their own work loads and roles was of far greater importance to them than thinking about impact on students and activities of colleagues. In contrast, school administrators became much more interested in what others were doing with ML, and central office staff concerns became generally lower. The relatively high awareness concerns for all three role groups suggest that ML was one of many things participants were involved with and may well be not the most important.

Results suggest that most of the ML work load fell on teachers, who would probably benefit from support from the other two groups -- in the form of information, management assistance (e.g., materials development, or test design and scoring), and acknowledgement of the efforts they have made.

Table 56

SoCQ Responses, June 1982: Mastery Learning



teachers

central office

school administrators

Issues. Although some participants made no recommendations, others made several, with a total of 48 statements, 10.42% of which recommended "no change" and 16.75% of which recommended expansion to other schools or more units of instruction. A research and evaluation design was requested by 10.42% (three LEAs), and recommendations were made to use resources to buy books instead of implementing ML (2%), not to force teacher participation (2%), and to keep other staff (in the school and LEA) informed about the project (2%). The greatest number of recommendations related to training (22.92%) and support (31.25%).

- While 20.92% of the responses requested more staff development, 2% recommended fewer workshops.
- In three LEAs support needs (12.5%) were defined in terms of central office -- that ML school-based activities should be coordinated with county curricular objectives and that central office commitment should be more evident.
- Teachers expressed needs for assistance, time to plan, materials, and clear simpler guidelines or procedures (16.67%). One school administrator expressed a need for more financial support.

With the exception of the research and evaluation design, all these recommendations were also mentioned by follow-up participants.

Summary. The greatest needs and concerns for ML relate to the workload carried by the teachers and the kinds of support they would like to have. They want ML to succeed, but they need help in the development and management of the curriculum, testing, and instruction t ensure alignment and overall quality. In contrast, needs and concerns of school administrators and central office staff are low, although a few are interested in increasing the extent to which ML fits with LEA priorities. The needs of teachers for support and the need for school-based projects to be coordinated with

school or LEA efforts are linked: the former is unlikely to be satisfied unless one or both of the others occur.

Summary of Mastery Learning Implementation

Mastery Learning was implemented in six LEAs in six schools by 81 teachers with students in 93 classes at all grade levels. Most classes were in basic skills, but many subject areas were used. ML was used 100% of the allocated time for the selected subjects for a period of from two months to the full school year, with the average per teacher being two to three units of instruction.

With the exception of one LEA, all systems attempted to involve all three role groups in planning and training activities initiated by MSDE, although overall participation for Baltimore County was patchy due to staff reassignments. In general, central office staff were most involved with planning, teachers most involved for training, and school administrators involved in both about equally.

ML took more time to implement than other teaching strategies tried by participants in the past. Support to teachers, inservice and interaction with others, materials development, and record keeping all took more time, with teachers most involved in the last two activities. Although most central office staff and school administrators considered the support received from each other and from teachers as being above average, teachers were less satisfied with the support they had received, especially from central office staff.

Since all ML projects were school-based, with one planning expansion across the district if the project is successful, but the other five having

a lighthouse strategy, roles and responsibilities are not surprising. However, the role of coordinator was of interest. In three schools a teacher-coordinator was appointed, with a reduced teaching load and clear leadership and authority. In two cases this occurred from the beginning of the project and was a strong positive influence in implementation. In the third school leadership was assigned to a teacher-coordinator in March and resulted in clearer communication and better arrangements to support teachers. (Incumbents classify themselves as school administrators.)

The greatest value of ML was that it increased teachers' knowledge and skills in effective lesson development and instructional organization. In some LEAs, interaction among role groups was also considered to be a positive outcome. Students appreciated the "no fault" tests, and there was some evidence of increased student achievement. However, teachers were doubtful that ML was worth all the work, and disliked spending so much time on planning and record keeping. There was also some concern that ML might hold back high ability students, and ML was difficult to implement when student attendance was irregular.

Needs and concerns related to some of the points mentioned above. Teachers need help in ensuring quality and in finding ways to reduce the workload. It would probably be useful for all LEAs to review their implementation strategies, their arrangements of roles and responsibilities in relation to leadership and support, and the extent to which school-based ML (curriculum alignment, tests, and methods of instruction and testing) can or should be linked to district efforts.

The above is a general summary across sites. Below, each LEA is discussed separately.

- Allegany, using a lighthouse strategy in a K-12 school, had a strong cross-hierarchical team, with good representation of all role groups in all activities. Commitment and communication were excellent, with a clear understanding of ML by all involved. Educators liked the ML philosophy and found that the process improved student achievement, but they were concerned about the possible negative impact on high ability students and the amount of planning and development time needed. Needs relate to support for teachers in the form of staff development (but not workshops), problem solving and materials.

- Anne Arundel, using a lighthouse strategy in a high school, had a tightly-knit school-based team of biology teachers (led by a coordinator) who understood ML and its implications and who worked hard to develop quality tests and instruction. They liked the opportunity to use a new strategy that gave students a "second chance," but had some concerns about classroom management issues. They would like to explore relationships of their program with county objectives, use ML for a full year, and apply a research/evaluation design.

- Baltimore City, using a pilot/district strategy, had an energetic and committed cross-hierarchical team in a high school, with strong leadership from a teacher-coordinator. Alternative staff development strategies were developed, with some teaches sharing work among a team and others working alone, but all 45 committed to develop and teach at least two units. Participants found ML to be an effective organizational strategy that gave students a second chance and kept them involved and, in about half the classes, resulted in improved student achievement. They were concerned about the time needed for planning, the testing component (format, student's studying for mastery but not transfer, record keeping) and the possible negative impact on high ability students. Needs relate to support for teachers by simplifying and clarifying procedures, problem solving and staff development (but not workshops), and encouraging rather than mandating participation. Program expansion is recommended, and a research/evaluation design is requested.

- Baltimore County, using a lighthouse strategy in an elementary school, experienced staff reassignments, but the teachers and central office staff worked hard to compensate, with the former using ML systematically for the full year, resulting in some improvement in student achievement (MET). Use of a new teaching strategy and the resulting student involvement in learning were considered positive features of the program, but there was concern

over time needed and the possible negative impact on high ability students. Planning time and staff development are needed.

- Howard, using a lighthouse strategy for the sixth grade in one school, maintained participation in activities prior to implementation, but was not represented at the March follow-up, and initiated little interaction with MSDE and other LEAs. Classroom use occurred during February and March, with some improvement in student achievement perceived by teachers. Although involvement in a new strategy was considered valuable, time was a problem, and needs were expressed for staff development, support, and a research/evaluation design.

- Worcester, using a lighthouse strategy in an elementary school, relied heavily on teachers' efforts, with subsequent leadership from a school-based coordinator. Participants found ML to be a practical and effective new strategy resulting in some improvement in student achievement (MET), but requiring more thoughtful processes of planning than were anticipated. Needs relate to support, staff development and communication.

In general, all LEAs carried out all elements of their PEPS plans. Considering the complexity of ML, and the fact that in many cases teachers had to reorganize or rewrite curriculum, and in all cases they had to develop criterion-referenced tests, the nature and extent of implementation was impressive. In order to improve quality and maintain energy and enthusiasm, support for teachers is needed for the 1982-83 school year.

Student Team Learning

The following section describes the implementation of Student Team Learning (STL) including discussions of the scope and intensity of implementation, LEA participation in MSDE training and planning events, time spent on the topic, roles and responsibilities of implementers, impact, and participant needs and concerns.

Scope and Intensity of Implementation

Of the 19 LEAs implementing one or more SITIP topics, eight wrote

initial proposals for STL and the same eight completed PEPS* forms in the fall of 1981. Some of these counties had used STL before the SITIP project, making it difficult to determine the number of teachers implementing STL as a result of SITIP. Therefore, the numbers in Table 57 are estimates based on information obtained from the general survey, the follow-up meetings, project director interviews, and visits to pilot site schools.

During the first year of the project, Baltimore County used a pilot/district approach, focusing on two schools (elementary and middle) in mathematics, reading/language arts, science, and social studies. Seven teachers (three from the elementary school and four from the middle school) used STAD, Jigsaw, and TGT in approximately 17 classes.

Calvert followed a lighthouse school strategy with one middle school implementing both STL and TV. Three teachers have used STL in grades six through eight in reading/language arts and social studies.

Charles used a lighthouse school approach with one middle school using STL in grades six through eight. STL was used in various subjects by approximately 19 teachers.

In Montgomery, STL was used in one junior high school, grades seven through nine by seven teachers in approximately 21 classes for various subjects.

Prince George's used a capacity-building strategy originally implementing STL in three elementary schools in language arts, one school in each of the regions of the county. Project coordinators report that STL has

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*PEPS -- Promising Educational Practices Submittal -- a summary of a local plan describing eight elements. See the chapter on planning for a completed discussion.

Table 57

Scope and Intensity: Student Team Learning

LEA	# Schools	Grades	# Teachers	# Classes	Subjects
Baltimore Co.	2	3,5,6, 7,8	7	17	M, R/LA, Sc, SS
Calvert	1	6,7,8	3	4	R/LA, SS
Charles	1	6,7,8	19	35	M, R/LA, Sc, SS, Other
Montgomery	1	7-9	7	21	M, R/LA, Sc, Other
Prince George's	10+	K,1,2, 4,5,6, 9,10,11	28	41	M, R/LA, Sc, SS
Queen Anne's	1	9-12	6	15	M, SS, Other
Washington	3+	4,6,7	20+	30+	M, R/LA, SS, other
Worcester	1	K-5	15	14	M, R/LA, Sc, SS, Other
Total	20+	K-12	105+	177+	M, R/LA, Sc, SS, Other

Note: Numbers are approximate

M = Mathematics
R/LA = Reading / language arts
Sc = Science
SS = Social studies

expanded to at least ten schools (nine elementary and one senior high school) across the three regions with approximately 28 teachers for various subjects as a result of the SITIP project.

Queen Anne's planned to use a capacity-building approach in which 10% of the teachers in the high school would implement STL in their classrooms. During the first year of the SITIP project, approximately six teachers implemented STL in grades 9 through 12.

Washington also planned to use a capacity-building strategy, hoping that 50% of the teachers receiving training in STL would implement the process in their classrooms. Approximately 20+ teachers in at least three schools have used STL as a result of the SITIP project,

During the 1981-82 school year, Worcester implemented STL in one elementary school with approximately 15 teachers in grades K through 5 in various subject areas.

As can be seen in Table 57, the intensity of STL implementation varied among the eight counties from approximately 10+ schools, elementary and secondary grade levels, and varied subject areas in one county to three teachers teaching two subject areas in four classes in one school in another county. Across the eight LEAs, approximately 20+ schools were involved with at least 102 teachers using STL with approximately 177+ classes in grades K-12.

STL was used in at least 13 elementary schools, in five junior high/middle schools, and in two high schools. Seven out of eight counties used STL in mathematics, reading/language arts, and social studies. Five counties used STL in science and five LEAs used STL in subject areas other

than the ones listed above. All the LEAs used STL in at least two different subject areas.

LEA Participation in Planning and Training

MSDE conducted three training and three planning activities for the counties interested in implementing STL (see Table 58). A larger percentage of the respondents had been involved in two or more training events (62.07%) than in planning activities (48.28%) or in all six events (20.69%). Sustained attendance for all six activities was best maintained by school administrators (of whom 55.55% were involved) followed by teachers (with 15.38% of them participating in all six activities). Only one central office person was involved in all six events.

Table 58

Attendance Patterns for Training and Planning Events: Student Team Learning (June 1982)

	Total Respondents		Training 2 or more Events	Planning 2 or more Events	All 6 Events
	N	%	%	%	%
Total	58	100	62.07	48.28	20.69
Central Office	10	100	60	40	10
School Administrators	10	100	77.77	88.88	55.55
Teachers	39	100	58.97	41.03	15.38

Ideally for each county, each role group should have been represented in all six activities, and individual representation should have been sustained. At the minimum, each county should have involved representatives from all three role groups in at least two training and two planning activities.

The following summarizes participation patterns:

- In Baltimore County, all three role groups were appropriately represented in at least two training and two planning activities. the school administrators were the only participants that sustained attendance over all six activities.

- Calvert County did not involve central office staff in the two planning meetings; school administrators and teachers were appropriately represented with teachers maintaining attendance across the six activities.

- School administrators and teachers from Charles County were appropriately represented in the training and planning activities with sustained attendance across all six activities by both groups, however, central office staff were involved in only awareness conferences.

- In Montgomery County, teachers and central office staff were involved in two or more training activities with the former also involved in two or more planning activities. Principals were involved in one planning activity, but none of the role groups sustained involvement in all six activities.

- In Prince George's County, teachers were appropriately represented in both training and planning, central office staff were appropriately represented in training events, and school administrators were not involved in any activity. Attendance was not sustained by any of the participants.

- All three role groups in Queen Anne's County were appropriately represented with sustained attendance by central office staff and teachers.

- Teachers, school administrators, and central office staff were appropriately represented in training and planning activities but no participant sustained attendance across all six activities in Washington County.

- Worcester County teachers, school-administrators, and central office staff were appropriately represented at training and planning activities with the two former groups maintaining attendance across all six activities.

Overall, Baltimore, Queen Anne's, Washington, and Worcester Counties were the only LEAs that involved cross-hierarchical teams in at least two training and two planning activities. None of the LEAs had at least one member from each role group participating in all six activities. Three

counties had sustained involvement by two out of three role groups and two counties had one role group involved across all six activities. School administrators were more heavily involved in both training and planning than central office staff and teachers. Central office staff and teachers were fairly equally involved in both training and planning.

Time Spent on the Topic

This section discusses time spent on STL during the first year of implementation. Time across the school year is discussed first, followed by a discussion of use of time in the classroom.

1981-82 Schedules. The majority of STL implementers began using the process in September and October of 1981. A few teachers were still beginning to implement as late as April 1982. The majority of teachers stopped using STL in May. However, in two counties a few teachers had terminated implementation as early as February and March 1982.

Calvert, Montgomery, Prince George's, and Worcester Counties accomplished their planned time period for implementation (see Table 39). The majority of teachers in Charles County did not use STL over a time period of seven months. Baltimore, Queen Anne's, and Washington Counties did not indicate a planned time period for classroom implementation on the PEPS form. In Baltimore County, the majority of teachers had begun by November 1981 and finished in May 1982. Queen Anne's County implemented STL over a seven- to eight-month period. In Washington County, teachers used STL over the entire school year.

In the Classroom. Once implementation began, the majority of the teachers (64%) used STL up to 25% of the time and the rest of the teachers

used it from 26% to 50% of the time. Only one teacher used it more than 50% of the time. Teachers seemed to be using STL occasionally for certain units or for certain topics within a unit.

When asked whether STL required teachers to spend more time preparing students (e.g., grouping, pre-testing) respondents tended to agree. However, the mean response (3.64) was lower than expected since STL does require teachers to spend time grouping students in order to obtain teams with heterogeneous ability levels. In general, the respondents also felt that STL did not allow the teacher to cover curriculum in less time in comparison to other instructional processes.

Roles and Responsibilities

The SITIP design encourages involvement of a cross-hierarchical team including: 1) central office staff, e.g., supervisors in instruction or coordinators of staff development; 2) school administrators, e.g., principals, vice principals, department heads; and 3) classroom teachers. This section describes the people involved, what they did, and their relationship to each other from three perspectives: usual assigned roles, activities undertaken, and interactive support, with reference to level of effort and use of time for implementation of STL.

Usual Roles. Of the nine central office staff actively involved in STL, five had instructional responsibilities, two were involved in staff development, one was in research and evaluation and one was a Project Basic coordinator.

Of the ten school administrators actively involved in STL, three were from high schools, four were from junior high/middle schools, and three were from elementary schools.

Activities and Levels of Effort. Each local superintendent committed cross-hierarchical teams for a two-year implementation period in addition to the training and planning activities of 1980-81. In general, traditional responsibilities were assumed by each role group. Six activity areas were identified, and central office staff and school administrators were asked to indicate level of effort (time and energy) spent on each (with responses ranging from 0 to a high of 6).* The areas of activity were: 1) administration (including planning and budget); 2) development of materials; 3) designing and/or conducting inservices; 4) supporting school implementation (e.g., problem-solving, supply materials, etc.); 5) dissemination; and 6) evaluation. (Mean responses are presented in Table 59.)

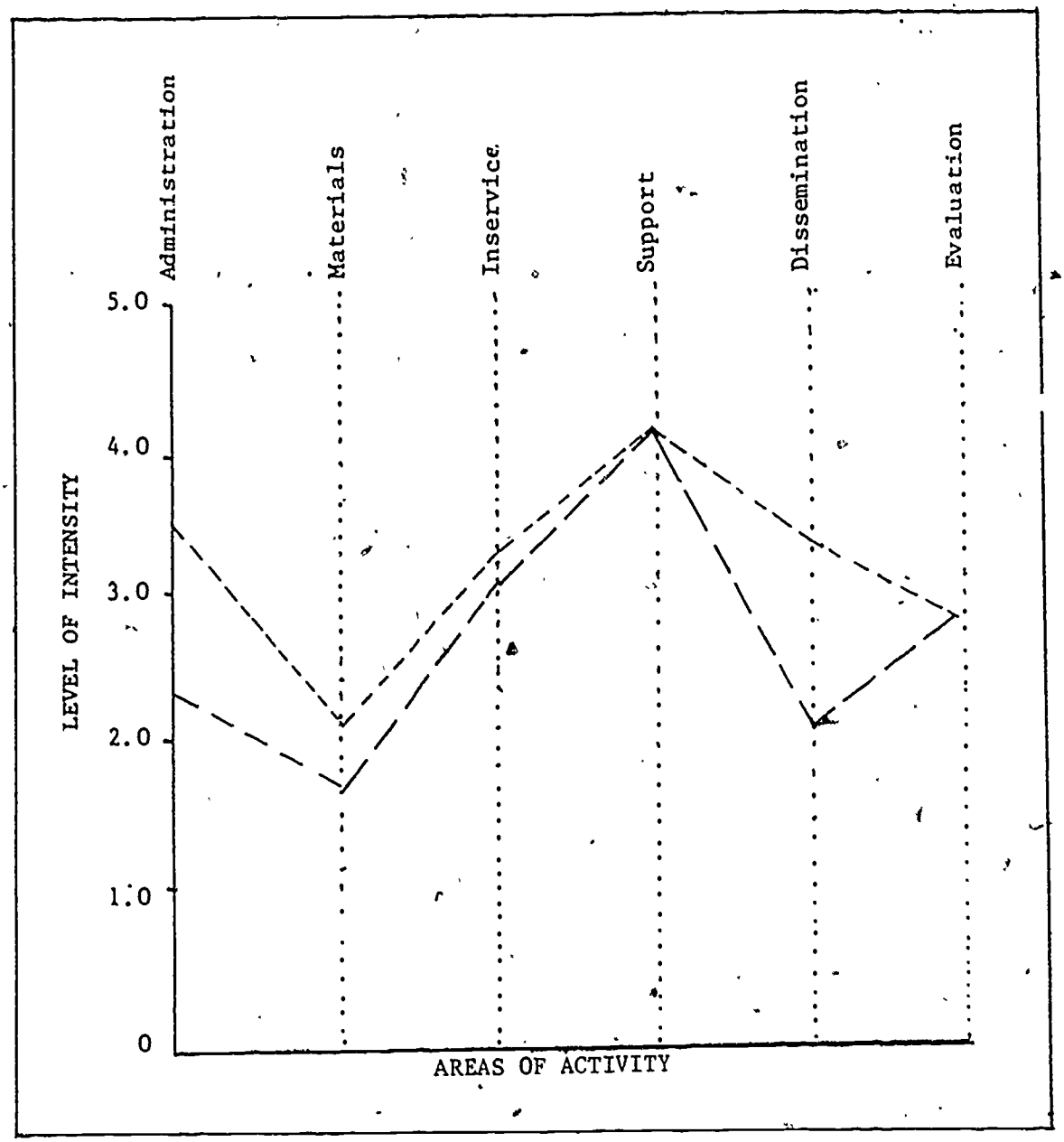
Most effort was spent by central office staff and school administrators on providing support to school staff, followed by administration, and least effort was spent on materials development. Some specific points include:

- In the three capacity-building and one of the pilot/district LEAs, school administrators spent little effort on administration but their central office staff spent much more.
- Only four respondents (three of whom were central office staff) spent much effort on materials development (a high need for STL).
- Inservice effort was low for about half the respondents in each role group.
- Support was fairly high for all respondents, with the exceptions of school administrators in two counties (Washington and Worcester) and two central office staff in Prince George's.
- Dissemination and evaluation efforts were higher for central office staff than for school staff, with Washington very low in both.

*Data are not available for central office staff from Calvert, Charles, and Montgomery Counties, and for school administrators from Montgomery and Prince George's Counties.

Table 59

Level of Effort: Student Team Learning



All three role groups were asked to rate the amount of time required for STL in comparison to other projects in which they had been involved. On a scale from 1.00 (substantially less time) to 5.00 (substantially more time), the STL implementers indicated that, in general, the instructional process required more time compared with other strategies (see Table 60). School administrators found that all five activities required more time (mean of 4.34) with becoming informed (4.86) and interacting with other school personnel (4.57) rated highest. Central office staff found STL to require about the same amount of time as other strategies for all activities. Teachers rated all the activities as requiring more time (mean of 3.86) with preparing and organizing materials (4.03) and record keeping (4.00) rated highest.

Interactive Support. Each of the eight LEAs had a SITIP team, but roles and responsibilities varied, partly influenced by the implementation strategy selected, and partly influenced by the nature of STL, which was perceived by many participants as a teacher-owned strategy needing little involvement of other role groups. Three counties chose a lighthouse strategy, two chose a pilot/district approach, and three focused on capacity-building -- one within a school, and two across the district.

In all three lighthouse sites, central office staff were virtually uninvolved. School administrators carried out administrative tasks, gained and provided information, and provided support to teachers, who spent most effort on becoming informed and developing materials. Interactive support occurred to some degree within the schools, but in general, teachers worked pretty much on their own.

Table 60

Use of Time: Student Team Learning

Activity \ Role	Central Office N=9	School Administrators N=7	Teachers N=38	Total N=54
Becoming informed	3.44	4.86	3.97	4.00
Interacting with school personnel	3.44	4.57	3.78	3.83
Preparing/organizing materials	2.75	4.00	4.03	3.83
Record Keeping	2.78	4.14	4.00	3.82
Evaluation	2.78	4.14	3.53	3.48

Mean ratings range from a low of 1.00 (substantially less time) to a high of 5.00 (substantially more time).

In the two pilot/district counties there was slightly more involvement of central office staff who spent most effort on support, inservice, and administration. In Worcester, the school administrator was most involved in materials development and evaluation (complementing the central office efforts). In Baltimore County, school administrators took more responsibility for administration and support to teachers. In that case (Baltimore County) teachers assumed most responsibility for materials, while in Worcester, although teachers did spend time on materials, comparatively more was spent in learning about STL and evaluating its use. In both LEAs teachers interacted somewhat more with the other two role groups than was the case for the lighthouse schools.

Three counties selected a capacity-building approach, with Queen Anne's focusing on the high school, Prince George's dividing the activities by its three geographical regions, and Washington also conducting regional training for teachers, following an orientation session attended by all school administrators and central office supervisors. School administrators were least involved for these three counties, and when they were, their tasks were mostly in supporting teachers. Central office staff carried out administrative tasks, conducted inservice, and provided support. Teachers spent most time learning about STL and developing materials, and interacted more with other role groups than did teachers in pilot/district or lighthouse sites. In Washington, a team of four teachers conducted all training sessions, and all three role groups conducted training in Queen Anne's.

Of all four SITIP topics, STL required the least cross-hierarchical activity, and local plans reinforced this to a large extent.

Implementers were asked to rate the support received from each role group (from 1.00 very poor to 5.00 excellent with 3.00 as average). As indicated in Table 61, for STL, central office staff were generally the most positive in their assessment (average rating of 4.23). School administrators were also positive in their ratings of support from the three role groups (average rating of 4.14). Teachers were, in general, less positive (average rating of 3.56) in their ratings. Central office staff and school administrators gave the highest rating of support to teachers; teachers gave their highest rating to school administrators.

Table 61

Perceptions of Support Received: Student Team Learning

Topics & Respondents	N	Teachers	School Administrators	Central Office Staff	MSDE	Developers
Central Office	7	4.43	3.86	4.40	4.57	4.71
School Administrators	8	4.43	4.00	4.00	4.44	4.11
Teachers	37	3.66	3.90	3.14	3.90	4.08
Total	52	3.88	3.91	3.41	4.07	4.17

Teachers received a mean rating of 3.88, with teachers themselves awarding the lowest rating (3.66) for support received from each other.

School administrators received a mean rating of 3.91, awarding themselves a rating of 4.00, but awarded less by central office staff (3.86) and teachers (3.90).

Central office staff received the lowest mean rating (3.41) with teachers awarding 3.14, school administrators awarding 4.00, and central office staff awarding themselves 4.40.

MSDE staff received a mean rating of 4.07, with the highest awarded by central office staff (4.57), with whom there was the most interaction, and the lowest by teachers (3.90) with whom there was least interaction.

Topic developers from Johns Hopkins University visited several of the counties, conducting training in STL. The counties rated support from the developers from 3.78 to 4.50 with an average rating across the eight counties of 4.17.

Summary. Tasks undertaken, effort spent, and interactive support were examined together to determine patterns of activity. Findings are summarized by task.

A summary of roles and responsibilities by task follows:

- Administrative tasks were assumed mostly by a single individual in each LEA, school administrators for lighthouse schools, central office staff for capacity-building and for pilot/district counties, although in Baltimore County one school administrator was also fairly heavily involved.

- Materials development, in general, required most effort from teachers. However, one central office person in each of three LEAs (Baltimore County, Prince George's, and Queen Anne's) and one school administrator (Worcester) also were involved to some extent in developing materials.

- Inservice -- learning and training -- was, on average, equally demanding for all role groups, but was fairly high for one central officer person (Baltimore County) and for four school administrators (Baltimore County, Calvert, Charles, Queen Anne's). Teachers found this task most time consuming in Calvert, Queen Anne's, Worcester and Washington. (In Washington, inservice was set up by central office staff but conducted by teachers.)

- Support and interaction required little more time and effort than any other project on the part of teachers, but school administrators invested more in Baltimore County, Calvert, Charles, and Queen

Anne's. Central office staff invested most effort for these tasks in Queen Anne's and Worcester, and to a slightly lower extent in Baltimore County and Prince George's.

- Dissemination required little effort of anyone.
- Evaluation and record keeping were a little more demanding for STL than for other new projects, with school administrators fairly heavily involved in Queen Anne's and Worcester, central office staff moderately involved in Baltimore County, and teachers about equally involved in all counties.

Impact

This section discusses the impact of STL on instruction in general and more specifically on teachers and students. Table 62 summarizes the responses given by STL implementers to several statements concerning impact.

Instructional Value. In general, the STL implementers agreed that the instructional process was worthwhile and that the process was worth the amount of time and effort that was necessary for implementation.

The LEA implementers described the STL process as relevant and manageable. They appreciated the strategies for providing immediate feedback on student progress. Implementers also mentioned the exciting classroom atmosphere and increased student-teacher interaction as advantageous aspects of STL.

Implementers from seven of the eight counties disliked the amount of time needed. Some were concerned about the organizational requirements and some suggested that STL was misused by some teachers. Educators also mentioned the need for classroom materials, the fact that the instructional process does not lend itself to all subjects, and that the strategy can be difficult to use when absenteeism is high.

Table 62

Impact of Student Team Learning as Perceived by Active Implementers (June 1982)

Areas of Impact / Role / N =	Central Office	School Administrators	Teachers	Total
Instructional Value				
Is it worthwhile/workable.	4.71	4.70	4.22	4.36
Is it more work than it's worth.	1.86	2.22	2.03	2.04
Impact on teachers				
Ts enjoy it.	4.57	4.22	3.92	4.06
Ts gain knowledge.	4.14	4.44	4.18	4.22
Ts increase skills.	4.00	4.25	3.95	4.00
Impact on students				
Ss enjoy it.	4.86	4.78	4.32	4.46
Ss are more involved in work.	4.43	4.13	4.00	4.08
Ss increase achievement.	3.79	3.95	3.64	3.70
Time				
Ts spend more time preparing Ss.	4.00	3.78	3.55	3.64
Ts cover curriculum in less time.	2.57	2.78	2.37	2.46

NOTE: Mean ratings range from 1.00 (strongly Disagree) to 5.00 (Strongly Agree).

Impact on Teachers. The average responses in Table 62 indicate that teachers enjoyed STL and had acquired additional knowledge and skills as a result of STL implementation. Average ratings on these three statements across the counties ranged from 3.60 to 4.83 for enjoyment, 3.89 to 4.60 for gain in knowledge, and 3.67 to 4.60 for increase in skills. Implementers felt that STL provided teachers with a new instructional strategy that they could use in their classrooms.

Impact on Students. LEA implementers indicated that students enjoyed STL and were more involved in their work. Implementers from all the counties agreed that STL helped to motivate students, improve peer relationships, and increase the student's self image. However, educators in three counties mentioned that STL may be too competitive for some students. Some implementers also believed that STL could have a tendency to hold back high ability students.

The majority of implementers from all counties felt that there had been an improvement in student achievement as a result of STL. Most teachers had used teacher-made tests to measure the impact of STL on student achievement. Teacher observation was the next most popular method of assessing impact of STL on learning.

Summary. In general, STL has had an impact on both teachers and students. Teachers have acquired a new teaching strategy that they can use to provide some variety in their lesson plans. Students are more interested and involved in their work, are more willing to cooperate with their peers, and seem to be retaining more material as a result of STL. However, some implementers have mentioned that STL is not as applicable to all subject areas, can be difficult to use when absenteeism is high, and may hold back

higher ability students. STL also requires additional teacher time for record keeping and grouping into teams.

Participant Needs and Concerns

The following discussion presents results of the Stages of Concern Questionnaire (SoCQ) and reviews needs and concerns identified through surveys, interviews, and observations.

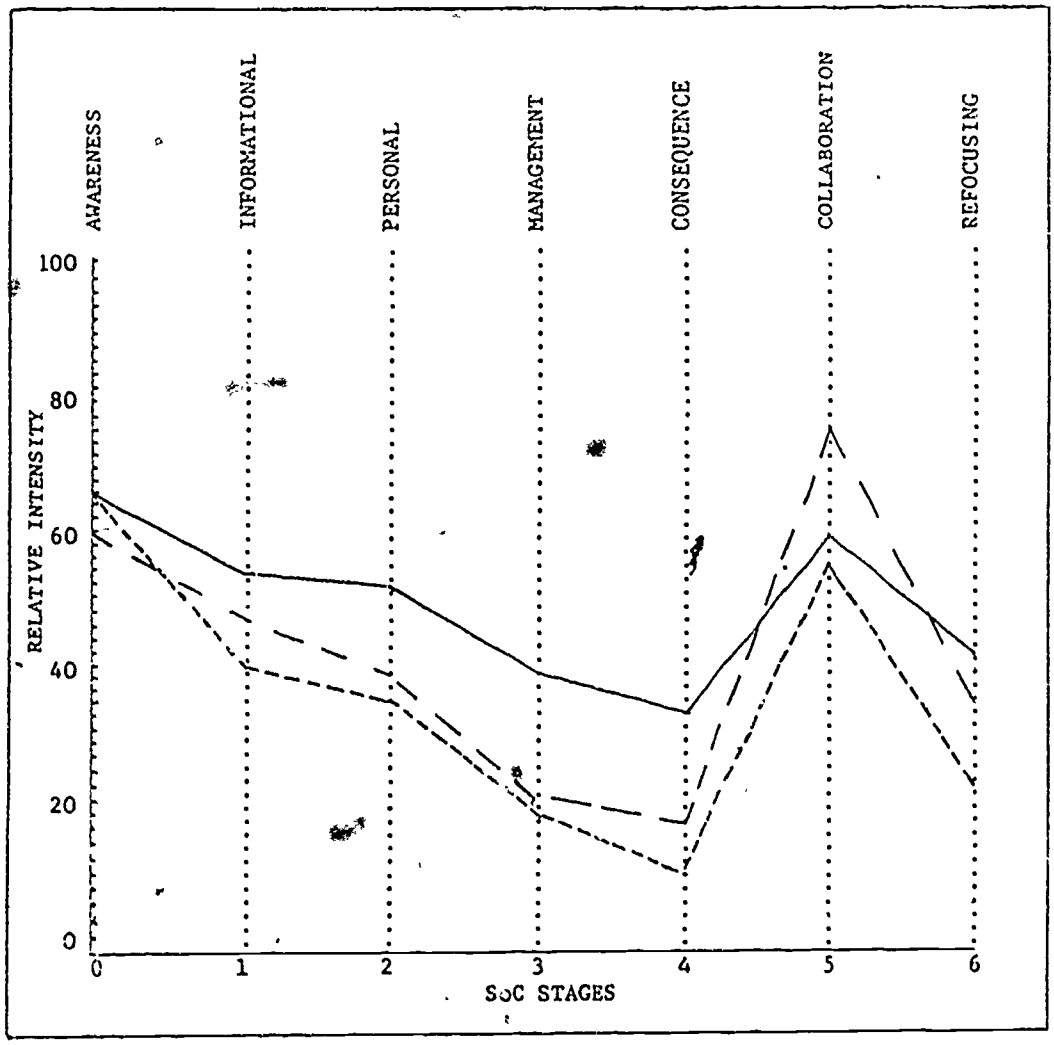
SoCQ. As discussed in the chapter on training, STL participants of the Summer Institute were well prepared for implementation. By June 1982 the most significant changes related to management and consequences -- both of which decreased (compare Tables 21 and 63). The 1982 overall profile indicated that STL was one of several programs or projects engaging participants, that interest in the activities of other implementers continued to be of high interest, that management of STL was not causing problems, and that impact on students was not a major concern (probably because most implementers found that students enjoyed STL).

Examination of Table 63 reveals some role differences. Central office staff and school administrators have similar profiles, both interested in others' activities and considering STL of relatively low importance among their other responsibilities. The former satisfied their information needs during the school year; the latter satisfied their management concerns and became more interested in collaboration. Teachers' management concerns were slightly reduced over the year, but every other dimension remained the same except awareness which increased, indicating that STL became a less prominent part of the teachers' efforts.

Results suggest that STL became routinized in many cases. If level of use remains high routinization is considered positive, but if use becomes sporadic (as has happened in a few schools) routinization can lead to

Table 63

SoCQ Responses, June 1982: Student Team Learning



teachers

central office

school administrators

242

fading out. The relatively high interest in collaboration can be used to maintain energy (e.g., through networking, exchange visits, etc.).

Issues. Although some participants made no recommendations, others made several, with a total of 43 statements, 11.63% of which recommended "no change" and 39.53% of which recommended expansion by involving more teachers, more schools, or using more of the STL strategies. In one county change was recommended for evaluation, but specifics were not clear. The greatest number of recommendations related to training (13.96%) and support (32.56%).

- For training, 4.65% requested visits to other classes or schools using STL, and 6.98% requested more staff development, particularly summer workshops. (Training recommendations were not made by Baltimore County, Queen Anne's, or Worcester.)

- For support, 9.30% needed materials, 6.98% wanted more substitute time or assigned teacher aides, and 2.33% recommended that paperwork should be eliminated for the project. The remainder were concerned about role group participation -- 9.30% advocating greater involvement of central office staff, and 4.65% suggesting there should be stronger evidence of commitment. (Support needs were not given by Baltimore County, Charles, and Queen Anne's.)

These needs were also identified by follow-up participants, and it appears that the concern over local involvement and commitment gradually increased during the year, and is reinforced by the SoC results.

Summary. The greatest needs and concerns for STL relate to interactive support -- networking between schools and classes and also building evidence of commitment from all role groups (more so in some LEAs than in others). Materials and preparation time are also needed by some teachers.

Summary of Student Team Learning Implementation

Student Team Learning was implemented by eight LEAs in at least 20 schools by more than 100 teachers working with approximately 177 classes in

most grade levels. STL was used for about 25% of the time allocated to the selected subject areas, most of which were basic skills, social studies, or science.

Participation in planning and training activities initiated by MSDE was consistently maintained by teachers from all LEAs; school administrators were well represented by all but two LEAs; central office staff were fairly well represented by four LEAs. In general, although project administration was the responsibility of central office staff or school administrators, teachers were relied on more for STL than for the other three topics.

STL took slightly more time to implement than other teaching strategies tried by participants, with overall mean ratings across role groups equal for support/interaction, training/learning, and materials development. The nature of the topic and the local plans (implementation strategy, role and scope arrangements) resulted in relatively little cross-hierarchical interaction, with least for the lighthouse schools and most in the capacity-building LEAs. Participants rated the support they had received from each other lower than that received from MSDE and developers (ranging from a mean of 3.41 -- about average -- for central office staff, through 3.88 to teachers and 3.91 to school administrators -- good, to 4.07 for MSDE and 4.17 for STL developers).

The greatest value of STL was that it benefitted students by increasing motivation, peer relations, and self esteem, and appeared to improve achievement. Also, teachers benefitted by being involved in a new instructional strategy, and acquired new knowledge and skills. However, teachers in seven counties found STL took time, required more materials than were

readily available, was too competitive for some students, and difficult to implement when absenteeism was high. However, most felt that STL was worth the work required.

Needs and concerns related more to district organizational issues than to classroom implementation (although 16.28% of specified needs did relate to the classroom). Greater commitment and involvement are needed in three LEAs; involvement of other schools and teachers are advocated in six LEAs; and inter-school or class visits and inservice are needed by four LEAs. Overall, if LEAs want STL to be perceived as a county project, less of the burden should be placed on teachers.

The above is a general summary across sites. Below, each LEA is discussed separately.

- Baltimore County, using a pilot/district approach in one elementary and one middle school, had a cross-hierarchical team with good to excellent mutual support among all role groups, although teachers would like to interact more with their peers. Commitment was high in both schools, although STL was used somewhat less in the middle school (which was being reorganized from junior high status)? Participants found that STL increased student motivation and achievement, and was a relevant strategy which teachers and students enjoyed, although it was somewhat time-consuming. Participants recommended expansion.

- Calvert, using a lighthouse approach in a middle school, had a cross-hierarchical team with relatively little central office involvement. Teachers and students enjoyed STL, and student motivation and achievement increased. Teachers needed assistance or time for planning and materials development and recommended involvement of other teachers and inter-class visits.

- Charles, using a lighthouse approach in a middle school, had a cross-hierarchical team with relatively little central office involvement. Student motivation and achievement increased, but teachers found STL time-consuming. More staff development, use of other STL strategies, and a (different) evaluation design were recommended.

- Montgomery, using a lighthouse approach in a junior high school, was primarily the teachers' responsibility. Student motivation and achievement increased. Recommendations included involvement of other schools, cross-school visits, summer workshops, and more central office involvement.

- Prince George's, using a capacity-building approach within the three regions of the county, had least involvement from school administrators. The use of a new strategy helped teachers, and students' achievement and motivation increased. Greater commitment was needed, plus more staff development and use of other STL strategies.

- Queen Anne's, using a capacity-building approach within the high school, had a cross-hierarchical team with good to excellent mutual support. Student motivation and achievement increased, and it was recommended that other teachers should become involved.

- Washington, using a capacity-building approach district-wide, conducted an orientation for all school administrators and supervisors, then conducted regional orientation and training sessions for volunteer teachers. A cross-hierarchical team was involved with average to excellent mutual support. Student motivation increased and teachers enjoyed using STL although it was time-consuming. Increased involvement was strongly recommended.

- Worcester, using a pilot/district approach in one elementary school, had a cross-hierarchical team with good mutual support. Student motivation and achievement increased although STL was time-consuming. The project expansion and use of a (different) evaluation design were recommended.

The extent to which LEAs fulfilled their PEPS plans varied, partly because PEPS objectives were for two years and current data describe only the first year. To date, the three lighthouse sites have exceeded their planned participation, since within each school a greater number of teachers or classes have been involved. One pilot/district (Baltimore County) satisfied its pilot site objectives. The other involved 15 teachers in one school and hopes to involve up to 35 more teachers in up to 16 schools. Of the capacity-building sites, Prince George's planned for 27 classes in from 9 to 27 schools and actually involved 41 classes through 28 teachers in

approximately 10 to 15 schools. Queen Anne's planned involvement of 10% of the teachers in one high school: three teachers used STL. Washington planned for use of STL by 50% of the teachers who participated in training: 20+ teachers used STL.

In general, classroom implementation of STL caused few problems although teachers would have liked more readily available materials. Counties followed through with their plans -- sometimes exceeding their objectives -- and in many cases are preparing to expand use. With increased interaction and support in some cases, STL should exceed its level of use for the 1982-83 school year.

Teaching Variables

The following section describes the implementation of Teaching Variables (TV) including discussions of the scope and intensity of implementation, LEA participation in MSDE training and planning events, time spent on the topic, roles and responsibilities of implementers, impact, and participant needs and concerns.

Scope and Intensity of Implementation

Of the 19 LEAs implementing one or more SITIP topics, nine wrote initial proposals for TV. However, only six counties completed PEPS* forms for TV in the fall of 1981 and five counties implemented TV during the 1981-82 school year. Cecil, Harford, and Howard Counties had planned on using TV in addition to one other topic. However, they changed their minds

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*PEPS -- Promising Educational Practices Submittal -- a summary of a local plan describing eight elements. See the chapter on planning for a complete discussion.

after the Summer Institutes. Baltimore County dropped TV during the school year mainly because local circumstances indicated that they had insufficient resources (expertise and stability) to implement a combined project.

During the first year of the project, the counties involved in TV carried out their implementation strategies as planned in the fall of 1981 (see Tables 39 and 64). All LEAs focused primarily on the "time" variable.

In Calvert County, both "time" and "content" variables were implemented in grades 6 through 8 in one middle school. For "content" curriculum alignment between Project Basic objectives, the CAT, curriculum, and textbooks was completed for reading/language arts and mathematics in the summer of 1981, and teachers kept records of opportunity to learn by class grade and objectives for each reporting period throughout the year. However, the "prior learning" element was not attempted. Time-on-task data were collected by two teachers who observed all teachers in all academic subjects. "Time" and "content" data were analyzed and stored on a micro-computer.

Frederick County used a pilot/district strategy with approximately 12 teachers in one school (grades 7-12), observing for "time" in a variety of academic subject areas. The "content" variable was addressed at the beginning of the school year when a match was determined between curriculum and CAT objectives.

In Kent County, eight teachers were observed on the "time" variable in one elementary school, grades one through four in reading/language arts.

Montgomery County implemented TV in one elementary and one middle school. Both schools implemented the "content" variable through the newly

Table 64

Scope and Intensity: Teaching Variables

LEA	# Schools	Grades	# Teachers	# Classes	Subjects
Calvert	1	6,7,8	18	18	M, R/LA, Sc, SS, other
Frederick	1	7-12	12+	12+	M, R/LA, Sc, SS
Kent	1	1-4	8	8	R/LA
Montgomery*	2	2-6	11	18	M, R/LA
Somerset	1	1,2	2	2	R/LA
Total	6	1-12	51+	58+	M, R/LA, Sc, SS, other

Note: Numbers are approximates

* Teachers at one school were using TV as a data collection technique for AT.

M = Mathematics
R/LA = Reading / language arts
Sc = Science
SS = Social Studies

adopted curriculum in reading/language arts which is designed to match curriculum and CAT objectives. At the elementary school, approximately four teachers in grades two through five implemented the "time" variable in reading/language arts and mathematics. These implementers were using TV as a data collection technique for AT which was also being implemented. Approximately seven sixth grade teachers at the middle school implemented the "time" variable in reading/language arts.

Somerset County implemented the "time" variable in one elementary school with two teachers in reading/language arts, grades one and two.

As can be seen in Table 64, the scope and intensity of TV implementation varied among the five counties from two teachers in one elementary school in one county implementing the "time" variable in reading/language arts to 18 teachers in one middle school in one county implementing both the "content" variable (recording opportunity to learn the objectives as well as aligning the objectives to the CAT) and the "time" variable in a variety of subjects. Across the five counties, six schools were involved in grades one through twelve in a variety of subject areas.

TV was used in only one school in four of the counties and in two schools in one of the counties. Three elementary, two middle, and one junior/senior high schools were involved. TV was used in reading/language arts in all of the counties, in mathematics in three of the counties, and in science and social studies in two of the counties. One county used TV in other subject areas in addition to the four listed above.

LEA Participation in Planning and Training

MSDE conducted three training and three planning activities for the counties interested in implementing TV (see Table 65). A larger percentage

of TV respondents had been involved in two or more training events (62.96%) than in planning activities (40.74%) or in all six activities (25.95%). Sustained attendance for all six activities was best maintained by central office staff (of whom 50% were involved) followed by school administrators and teachers (with 20% and 18.75% of them respectively participating in all six activities).

Table 65

Attendance Patterns for Training and Planning Events: Teaching Variables (June 1982)

	Total Respondents N	%	Training 2 or more Events %	Planning 2 or more Events %	All 6 Events %
Total	27	100	62.96	40.74	25.93
Central Office	6	100	83.33	50	50
School Administrators	5	100	100	80	20
Teachers	16	100	43.75	25	18.75

Ideally, for each county, each role group should have been represented in all six activities, and individual representation should have been sustained to maintain a sense of continuity and build a cross-hierarchical knowledge base and consensus about the topic and how it was to be implemented. At the minimum, each county should have involved representatives from all three role groups in at least two training and two planning activities.

The following summarizes participation patterns for the counties involved in TV:

- Calvert role groups were appropriately represented in both training and planning activities. However, teachers were the only role group maintaining involvement across all six activities.

- All role groups from Frederick County were appropriately represented in both planning and training with central office staff sustaining involvement across the six activities.

- Central office staff and school administrators from Kent County were appropriately represented in training and planning, with central office staff sustaining involvement. Teachers were appropriately represented in training (data are not available for planning).

- Montgomery school administrators were appropriately involved in training and planning activities and were the only role group maintaining involvement across the six activities. Teachers were appropriately represented in training activities. Central office staff were appropriately represented in training with no information available for planning.

- In Somerset County, central office staff and teachers were appropriately represented in training and planning and maintained involvement across the six activities. School administrators were involved in two training events and one planning activity.

Of those implementers responding to the General Survey, school administrators were more heavily involved in both training and planning than were central office staff and teachers. Central office staff were more heavily involved in both training and planning than were teachers.

Time Spent on the Topic

This section discusses time spent during the first year of implementation. Time across the school year is discussed first followed by a discussion of use of time in the classroom and then in the school.

1981-82 Schedules. For the "time" variable, observations in Kent began in April. The majority of the teachers in the other four counties began TV implementation in September 1981 and finished in May-June 1982. Somerset County conducted "time" observations in February through June.

Calvert and Montgomery Counties accomplished their planned time period for implementation (see Table 39). Kent County got a later start than

planned. Frederick and Somerset Counties did not specify a time period on their PEPS form.

In the Classroom. For the "time" variable, most counties made three classroom observations for each teacher. Each teacher applied improvement strategies following analysis of observation data if strategies were determined (occurred in four of the six schools). In Calvert, participating teachers applied a modified version of the "content" variable for most of the school year.

TV did not require teachers to spend more time preparing students (e.g., grouping, pre-testing), nor did it affect curriculum coverage, except to a small extent in Calvert where teachers implementing "content" found that slightly more time than usual was required to cover the curriculum.

In the School. TV is designed as an action research approach for "time," requiring teachers who wish to improve "time-on-task" to develop and implement appropriate strategies. While TV suggests some strategies, most are usually developed by teachers working with each other (and school administrators and central office staff also in some cases). Strategizing or problem-solving meetings are considered "out-of-classroom" activities.

In all cases informal strategizing occurred between the observers and the teachers observed on an individual basis soon after data were analyzed. Little time was spent on such informal activity. In two counties, cross-hierarchical teams reviewed data together (in two schools data were reinforced by video-tapes of classes) and participated in mutual problem-solving. These sessions were more formal, occurred fairly frequently, often as part

of regularly scheduled staff meetings led by the school principal. In one county, formal strategizing is to occur in the summer of 1982. In all schools, observation required time, and when teachers observed each other, scheduling and use of substitutes had to be arranged.

Comprehensive implementation of the "content" variable was not specified on any LEA PEPs, and did not occur in any LEA.

Roles and Responsibilities

The SITIP design encourages involvement of a cross-hierarchical team including: 1) central office staff, e.g., supervisors in instruction or coordinators of staff development; 2) school administrators, e.g., principals, vice principals, department heads; and 3) classroom teachers. This section describes the people involved, what they did, and their relationship to each other from three perspectives: usual assigned roles, activities undertaken, and interactive support, with reference to level of effort and use of time for implementation of TV.

Usual Roles. Of the nine central office staff involved in TV, two had staff development responsibilities, and seven had instructional responsibilities. Five of the latter were actively involved in TV. School administrators involved came from elementary schools (three principals), middle/junior high schools (one principal, one vice-principal) and one junior/senior high school (principal).

Activities and Levels of Effort. Each local superintendent committed cross-hierarchical teams for a two-year implementation period in addition to the training and planning activities of 1980-81. Six activity areas were identified, and central office staff and school administrators were

to indicate level of effort (time and energy) spent on each (with responses ranging from 0 to a high of 5). The areas of activity were: 1) administration (including planning and budget); 2) development of materials; 3) designing and/or conducting inservice; 4) supporting school implementation (e.g., problem-solving, supplying materials, etc.); 5) dissemination; and 6) evaluation. (Mean ratings are presented in Table 66.*)

Levels of effort were most similar for central office staff and school administrators in the areas of dissemination and materials development, followed by training, support, and evaluation, with most difference on administration (see Table 66). The greatest combined effort was spent on support and the least on materials development.

- With the exception of Montgomery, each LEA had at least one person investing considerable effort in administration, although in Somerset the work seemed to be fairly evenly shared between the two role groups.
- Materials development was low for all respondents.
- Training was higher for central office staff than school administrators, with Kent investing most in this area.
- Providing support was very high for all respondents except one in each role group from different LEAs (Kent and Montgomery).
- Dissemination, the same for each role group, was highest in Somerset and Montgomery.
- Evaluation was relatively low (and equal) for all central office staff and school administrators in Calvert and Kent, slightly higher for school administrators in Montgomery and Somerset.

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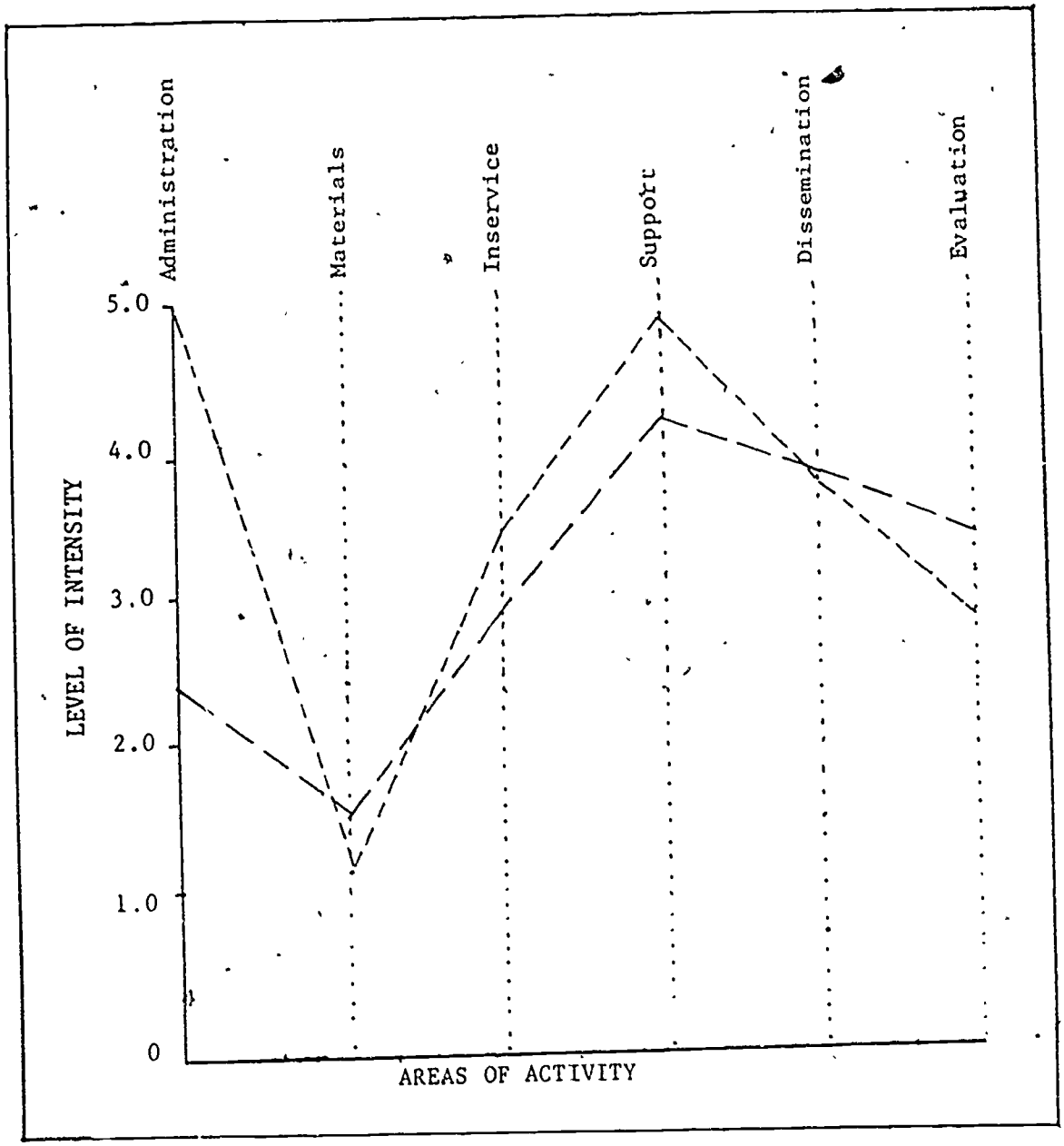
*Data not available for central office staff in Calvert and Montgomery and for school administrators in Frederick.

Table 66

Level of Effort: Teaching Variables



All three role groups were asked to rate the amount of time required for TV in comparison to other projects in which they had been involved. On a scale from 1.00 (substantially less time) to 5.00 (substantially more time), the TV implementers indicated that the instructional process required more time compared with other strategies (see Table 67). Teachers found that all five activities required slightly more time (mean of 3.71) with becoming informed (3.94) and record keeping (3.81) rated highest. Central office staff found TV to require more time in becoming informed (4.33), interacting with school personnel (4.33), and record keeping (4.00). School administrators rated all the activities as requiring more time (mean of 3.73) with the exception of evaluation (3.25).

Average ratings across the five activities indicated that all the counties found TV to require slightly more time (3.47 to 4.16) to implement with Frederick County giving the highest ratings.

Interactive Support. Each of the five LEAs had a SITIP team, with lighthouse implementation strategies in four counties and a pilot/district approach planned in Frederick. Leadership was provided by central office staff in two counties, by school administrators in one, by a teacher in one, and by a cross-hierarchical team in Somerset. Observation was conducted by teachers in four counties, although school administrators later assumed most of that task in one LEA, and central office staff observed in Kent. Arrangements for observation were complex, usually requiring a substitute to replace the observing teacher who then either tracked a class of students (e.g., in junior high school) or negotiated scheduling with teachers to be observed. These arrangements (support) were usually undertaken by the

Table 67

Use of Time: Teaching Variables

Activity \ Role	Central Office N=6	School Administrators N=5	Teachers N=16	Total N=27
Becoming informed	4.33	4.00	3.94	4.04
Interacting with school personnel	4.33	3.80	3.69	3.85
Preparing/organizing materials	3.33	4.00	3.44	3.52
Record Keeping	4.00	3.60	3.81	3.82
Evaluation	3.50	3.25	3.69	3.58

Mean ratings range from a low of 1.00 (substantiall less time) to a high of 5.00 (substantially more time).

school administrator. In all cases, observers and those observed learned from each other -- formally or informally sharing ideas to improve teaching techniques. In Montgomery and Somerset, meetings involving more than the two people directly involved required support and participation from all participants. Only Calvert emphasized the "content" variable with teachers interacting with each other and much responsibility undertaken by a coordinating teacher supported by a school administrator.

Implementers were asked to rate the support received from each role group (from 1.00 very poor to 5.00 excellent with 3.00 as average). As indicated in Table 68, for TV, central office staff were generally more positive in their assessment, rating all groups between 4.00 and 4.50. School administrators rated teachers highest (4.60) and considered central office support average to good (3.40). Teachers rated their colleagues as average to good (3.56), and awarded the lowest rating to central office staff (2.81 -- just below average).

Table 68

Perceptions of Support Received: Teaching Variables

Topics & Respondents	N	Teachers	School Administrators	Central Office Staff	MSDE	Developers
Central Office	7	4.36	4.14	4.14	4.00	3.46
School Administrators	42	4.08	4.16	3.95	4.01	3.87
Teachers	204	3.48	3.67	3.36	3.16	3.23
Total	273	3.66	3.78	3.52	3.39	3.49

Teachers received a mean rating of 3.96, with teachers themselves awarding the lowest rating (3.56).

School administrators received a mean rating of 3.85, with central office staff awarding the highest rating (4.50).

Central office staff received a mean rating of 3.19; MSDE received a mean of 3.56, and topic developers were awarded a mean rating of 3.37.

Summary. Roles, tasks, effort spent, and support provided were examined together to determine patterns of activity. Findings are summarized by task.

- Administrative tasks -- planning and budget -- were mostly assumed by central office staff, although in Calvert a school administrator invested considerable effort in this area. The least effort was spent by Montgomery participants and most by Kent.
- Materials development was low for all participants, although slightly more effort was invested by Montgomery and Calvert.
- Inservice -- learning and training -- was about equal for all role groups. (Most participants were trained at MSDE-initiated events, and topic developers conducted additional training in Kent and Montgomery.)
- Support and interaction took more time than for other projects for four central office staff (in three LEAs), for three school administrators (two of whom were in LEAs where central office staff were virtually uninvolved), and for teachers in only one county. (These findings reflect the fact that team problem-solving has occurred in only two counties and has taken relatively little time.)
- Dissemination required effort by school administrators in Montgomery and Somerset, with central office staff also investing fairly heavily in the latter LEA.
- Evaluation and record keeping were slightly more demanding for TV than for other new projects, with the highest mean investments by Montgomery and Somerset.

Impact

This section discusses the impact of TV on instruction, in general, and, more specifically, on teachers and students. Table 69 summarizes the responses given by TV implementers to several statements concerning impact.

Instructional Value. In general, on a scale from 1.00 (strongly disagree) to 5.00 (strongly agree), the TV implementers agreed that the instructional process was worthwhile (3.98) and that it was not more work than it was worth (2.33). Teachers tended to be less positive in their responses to these statements than central office staff and school administrators. Responses to these statements were fairly consistent across the counties with one county less positive than the others.

TV implementers mentioned several aspects of the instructional process which they found to be valuable. TV was described as a logical research-based method to improve classroom management by focusing teachers' attention on how they utilize classroom time. The "content" variable (as used/adapted) was found to be a manageable way of breaking the curriculum into instructional "steps," was easy to implement, and matched participants' needs. However, TV was considered time-consuming, and in two LEAs participants found the record keeping to be burdensome. Also, one teacher considered the improvement strategies suggested by TV to be overly simplistic, another thought that TV was not cost-effective, and a third found that observation interrupted the class and caused students to "act for the observer." All three teachers were in the same county.

Impact on Teachers. As can be seen in Table 69, LEA respondents felt that teachers had acquired additional knowledge and skills as a result of TV implementation (3.97 and 3.89 respectively). However, the educators were less sure about whether teachers enjoyed implementing TV (3.31). Teachers were less positive in their responses to these statements of TV impact on teachers than were central office staff and school administrators.

Table 69

Impact of Teaching Variables as Perceived by Active Implementers (June 1982)

Areas of Impact / Role N =	Central Office	School Administrators	Teachers	Total
Instructional Value				
Is it worthwhile/workable.	4.16	4.35	3.81	3.98
Is it more work than it's worth.	1.83	2.20	2.56	2.33
Impact on teachers				
Ts enjoy it.	3.50	3.80	3.07	3.31
Ts gain knowledge.	4.17	4.20	3.75	3.97
Ts increase skills.	4.17	4.25	3.69	3.89
Impact on students				
Ss enjoy it.	3.00	3.80	3.19	3.26
Ss are more involved in work.	3.50	3.50	3.44	3.46
Ss increase achievement.	3.09	3.68	3.13	3.21
Time				
Ts spend more time preparing Ss.	2.33	2.20	3.06	2.74
Ts cover curriculum in less time.	2.83	2.80	2.56	2.67

NOTE: Mean ratings range from 1.00 (strongly Disagree) to 5.00 Strongly Agree).

LEA implementers felt that TV made teachers aware of the quality of their instruction and enabled teachers to learn new techniques through observing and interacting with other teachers. They appreciated the training and assistance provided by MSDE in two LEAs. However, teachers in three LEAs were concerned about the time needed to implement TV.

Impact on Students. LEA implementers were less sure about TV impact on students. Responses to the statements on student impact (see Table 69) were between 3.00 and 3.50. School administrators tended to be slightly more positive in their responses to these statements. Teachers used a variety of measures to assess achievement, including mainly teacher-made tests and teacher estimates but also the CAT, the Maryland Functional Reading test, and the Nelson Reading Test. Only one teacher noticed significant improvement, and two school administrators and two central office staff noticed slight improvement. Most respondents were uncertain that TV had affected student achievement. This uncertainty is not surprising since, for the "time" variable implementers in only one county claim to have made systematic changes in their teaching strategies. In three others minor changes have been made, and in the fifth, data indicated that engagement rate of students was satisfactory -- requiring very minimal changes.

Summary. In general, the impact of TV is somewhat uncertain. Local educators have acquired knowledge and skills in determining time-on-task and have learned by observing each other. The "content" variable has allowed teachers to systematically record students' opportunity to learn, and has contributed to the alignment of curriculum objectives, instruction, and the CAT. Although one teacher found substantial improvement in student

achievement, most were unsure of the impact of TV on students. If only the "time" variable was implemented and if data indicated satisfactory "on-task" rates, teachers did not change and no impact was made. Where this occurred, the impact of TV was confirmation of appropriate instruction (in terms of time-on-task) by the teachers involved.

Participant Needs and Concerns

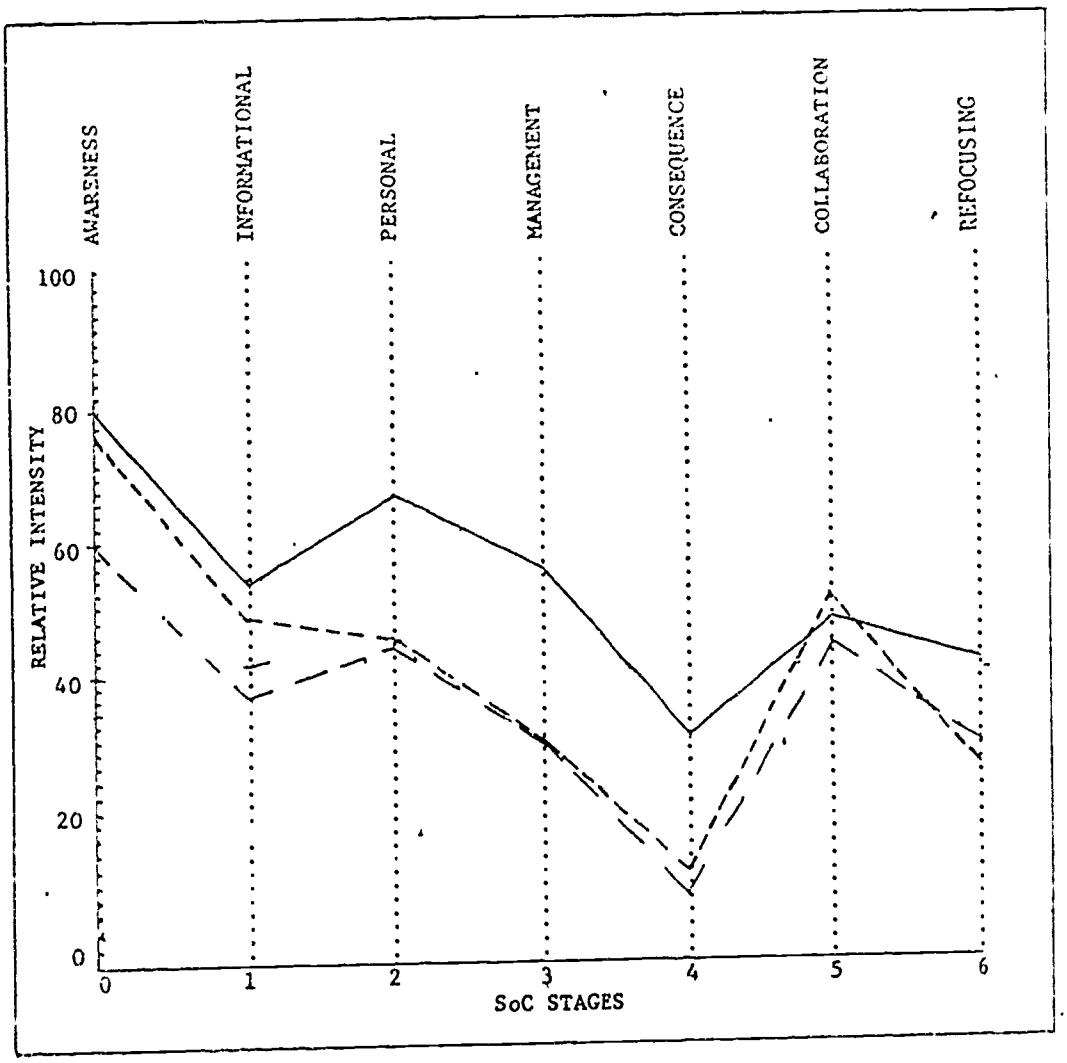
The following discussion presents results of the Stages of Concern Questionnaire (SoCQ) and reviews needs and concerns identified through surveys, interviews, and observations.

SoCQ. As discussed in the chapter on training, TV participants were less well prepared for implementation than were those involved in other SITIP topics in July 1981 (see Table 21). At that time, SoCQ data indicated that several participants were reconsidering their plans, and in fact between August 1981 and February 1982 four LEAs decided not to implement TV.

Role group responses have changed over the year (compare Tables 20 and 70), with the greatest differences evident for school administrators, whose concerns have decreased in all areas, and particularly in management, information, and awareness. Current data indicate that school administrators see some personal implications of TV, and they are interested in what others are doing. Central office staff interests have changed very little over the year, although current respondents are not interested in refocusing: they will support TV although it's not their main priority. Teachers' concerns increased for consequences and collaboration, and (slightly) on personal and management issues. Now that they understand the TV "time"

Table 70

SoCQ Responses, June 1982: Teaching Variables



variable, they want to know how to put it to work so that students and they themselves can benefit.

Results suggest that cross-hierarchical teams should engage in strategizing -- not only to determine ways to improve classroom instruction based on needs identified by observation, but also to resolve some of the teachers' personal concerns.

Issues. A total of 17 recommendations were made, with some of the 27 survey respondents making no suggestions and others making several. Representatives of two LEAs (11.76% of total responses) recommended "no change"; 17.65% recommended elimination or more selective use of TV; 29.41% recommended expansion -- use of other variables, or inclusion of other schools or teachers; and a teacher in one county wanted TV to continue but was afraid it might "fall by the wayside." In one LEA, one teacher suggested that if attention is focused on instructional (process) improvement, administration should not also require curriculum change; another suggested that teachers should be given the information about TV then left to chose their own improvement strategies. The remaining recommendations related to support (17.65%) and training (11.76%):

- Suggestions relating to support indicated that communication should be improved between role groups, that the role of central office staff should be clarified, and that MSDE should invite all TV participants to attend SITIP meetings (e.g., follow-up meetings).
- Respondents from two counties requested more inservice, with one specifying involvement of TV developers.

None of these needs had been identified at Follow-up meetings: at that time participants were more concerned with the mechanics of observation and coding for student engagement on the "time" variable.

Summary. The greatest needs for TV relate to interaction among the participants, both in terms of support and commitment and in acting upon the data collected through observation. Clarification may be needed in some cases, in terms of the real objectives of participants, of the real nature of TV (both variables), and how those two factors can be matched.

Summary of TV Implementation

TV was implemented in five LEAs in six schools by at least 51 teachers in approximately 58 classes across all grade levels except kindergarten. Most classes were in basic skills but other subject areas were also included. Most of the counties made at least three observations per teacher for a period of from two months to a full school year. The "content" variable was implemented to varying degrees by three counties, with Calvert following through most systematically throughout the year.

Participation in planning and training activities initiated by MSDE was maintained fairly well by all role groups from all counties. However, central office staff were much more involved in Frederick and Kent than in Calvert and Montgomery; school administrators were more involved in Montgomery and were "reassigned" in Frederick and Somerset and so missed early activities; and teachers played more important roles in Calvert and -- to some extent in Frederick. In Somerset representation was fairly equal for all role groups.

TV took slightly more time to implement than other similar projects tried by participants, with overall mean ratings quite different for each role group and for all tasks except evaluation (3.58). With the exceptions of Calvert and Montgomery, central office staff found TV more time-consuming

than did teachers or school administrators. Apart from administration, interacting/supporting required most effort for central office staff in the three counties in which they were involved. Three school administrators and teachers in four schools also found interacting/supporting to require high levels of effort. In no site did all three role groups report similar levels of effort, and in only two schools did teachers' investment in interaction come close to either school administrators or central office staff. (Given the nature of TV, this may be considered unfortunate.) Learning/training was, in most sites, an area of high investment, with similar investments by the actively involved role groups in Calvert, Frederick, and Montgomery, and with slight differences between role groups in Kent and Somerset. (Given the complexity of TV, this area of activity was expected to be fairly high, and it was -- mean 4.04.) The nature of the strategy -- lighthouse versus pilot/district -- had a slight effect in that in the latter case central office staff invested slightly more effort than did counterparts with lighthouse school strategies.

Perceptions of support tended to reflect the extent of role group interaction except in one county where teachers rated themselves as just above average and every other group as below average or poor. In all other cases ratings ranged from above average to excellent.

The greatest value of TV was that participants gained knowledge and skills by using a logical research-based procedure to focus attention on use of time in the classroom. In three LEAs teachers benefitted by applying specific improvement strategies. Observers also learned by observing other teachers and thus became aware of quality instructional strategies.

While teachers valued that learning they were also somewhat unhappy when pulled out of their own classes to observe, feeling they were losing time with their students. In two LEAs, use of the "content" variable contributed to curriculum alignment. However, participants in three counties found TV to be time-consuming, and in two counties record keeping was burdensome. During the first five to six months of implementation many participants experienced problems with data collection and analysis, especially in defining various categories of unengaged behavior. Although those problems were resolved at the spring Follow-up meetings, another problem seemed to persist: the question of what to do once data were analyzed.

While not specifically stated by participants, that problem is implied by several of the participants' recommendations relating to support, training, attention to other variables besides "time," and choice of improvement strategies. Concerns data reinforce these suggestions and also indicate a need to resolve teachers' personal concerns and clarify role group interaction.

The above is a general summary across sites. Below each LEA is discussed separately.

- Calvert, using a lighthouse approach in a middle school, implemented "time" and "content" for the whole school year finding that TV matched their needs. Although there was relatively little direct involvement of central office staff, they were perceived as supportive. Participants rated each other as good to excellent for their mutual support. Key teachers, particularly the mathematics teacher, were important to the project since they collected and analyzed data. Teachers gained knowledge and skills through observing and sharing and also through the curriculum alignment process. Strategizing was informal. The "content" variable was considered more useful than "time," and there were few problems in either case. Toward the end of the year more staff became involved,

and participants were considering refinement and expansion. Participants suggest that implications and actions for improvement need to be considered on a broader base -- possibly by subject-area or grade-level teams.

- Frederick, using a pilot/district approach in a junior/senior high school, had a cross-hierarchical team with good mutual support. Several teachers collected "time" data on many of their colleagues -- a useful learning process but time out of their own classes was considered a drawback. (TV as developed provides norms for elementary classes only, and Frederick decided to establish secondary school baselines.) Some informal strategizing occurred but plans indicated that formal strategizing will follow analysis in the summer of 1982. Participants considered TV to be logical, and increased teachers' awareness of the relationship of the use of time to achievement and of their own teaching styles. However, it was time-consuming and one teacher asked, "Where are we going?" Participants recommend improved communication and hope that TV does not "fall by the wayside."

- Kent, using a lighthouse strategy, experienced some initial problems due to staff reassignments, but conducted training in the spring of 1982. "Time" observations were subsequently conducted by the central office supervisor who found TV to be a logical method to look at student behavior and provide objective feedback to teachers. Participants would like more MSDE-initiated training, and plan to expand their use of TV, possibly using "content."*

- Montgomery used a lighthouse approach in two schools -- at a middle school, and -- in conjunction with Active Teaching -- at an elementary school. Both schools used video-taping to back up observation (which was conducted by both principals and teachers) and strategizing occurred in staff meetings where teachers viewed tapes and offered improvement ideas to each other. School administrators were most active in MSDE-initiated events, which resulted in some criticism by participants of central office seeming lack of interest. Support between groups within the LEA was perceived as below average to very good, with teachers receiving the highest ratings. Participants considered TV to provide a logical focus, with the "content" variable helping to organize instruction into manageable steps. The overall SITIP design, use of research, and training were appreciated, and some teachers found specific strategies to be helpful. However, it was time-consuming, some teachers considered TV inappropriate for their students or class arrangements, said that video-taping interrupted the class and that students "acted" for the observer, and indicated that they would prefer simply to

*Since teachers did not complete the general survey, a comprehensive picture cannot be drawn for Kent.

learn the procedures and then be left to determine their own strategies or level of involvement. Commercial and teacher-made tests indicated improved student achievement, which seemed to relate to use of the "content" procedures. Recommendations include clarification of the role of central office, greater involvement of teachers in MSDE-initiated activities, and consideration of modifications to reduce teachers' concerns as they deal with both new curriculum and the TV process (especially at the AT-TV site).

- Somerset, using a lighthouse strategy, had a cross-hierarchical team with excellent mutual support. Participants appreciated the SITIP design, training and assistance from MSDE. "Time" observations increased teachers' awareness of the quality of their instruction, and observers liked the systematic method to look at student behavior and provide feedback to teachers. Working as a team to develop improvement strategies by category was useful. However, record keeping was burdensome. Participants recommend involvement of other teachers in the school for "time." Also, record keeping procedures could be revised. Somerset staff have established a successful base for their program and should be able to expand with little difficulty.

In general, given the complexity of TV, participants made reasonable progress in their first year of implementation. Two suggestions may be considered for next year -- systematic application of both "time" and "content," and teaming to strategize for improvement. So far, in accordance with intended LEA plans, most effort has been spent on mastering the mechanics of TV: the groundwork has been done so that next year, LEAs may build capacity and see greater improvements.

Summary and Conclusions

The four preceding sections of this chapter each focus on local implementation of one of the topics: Active Teaching (AT), Mastery Learning (ML), Student Team Learning (STL), and Teaching Variables (TV). This section examines implementation across all four topics and across all 19 local education agencies (LEAs), under the following headings: scope and intensity of implementation, LEA participation in MSDE-initiated

activities, roles and responsibilities of local implementers, impact, and participant needs and concerns.

Scope and Intensity of Implementation

During the 1981-82 school year 19 Maryland school systems were involved in SITIP, 15 implementing a single topic and four implementing two or three topics (see Table 71). Over 65 schools were involved, with more than 688 teachers working with over 886 classes in all grade levels. Reading/lanugage arts was the most popular curricular subject, followed by mathematics, science and social studies. Teachers also tried SITIP topics in various other subjects.

Actual implementation was compared with that which was planned (compare Tables 39 and 72). In the discussion that follows, each dimension is reviewed. It should be noted that 1981 PEPS were for two years and current data relate only to the first year.

Topics. LEAs revised topic selection only for Teaching Variables, with four counties dropping the topic early in the 1981-82 school year, and implementing LEAs concentrating primarily on one variable. In general, the revisions were influenced by the complexity of TV: the perceived demands were greater than the perceived rewards. In all cases, topics selected were considered by local educators to be relevant to their interests, and the extent of implementation reflected the level of effort participants were willing to invest. The complexity of the topic as implemented determined the level of effort invested at the classroom level.

Strategies. Level of effort (i.e., time and energy an LEA was willing to invest), role group enthusiasm, and perceived local need seemed to be

Table 71

Scope and Intensity: All Topics As Implemented (1981-82)

Topic	#LEAs		#Schools	#Teachers	#Classes	Grades	Subjects
	Single School	Multiple					
Active Teaching	4	1	33	472	514	1-12	M, R/LA, Sc, SS
Mastery Learning	4	2	6	81	93	K-12	M, R/LA, Sc, SS, Other
Student Team Learning	4	4	20+	105+	177+	K-12	M, R/LA, Sc, Ss, Other
Teaching Variables	3	2	6	51+	58+	1-12	M. R/LA, Sc, SS, Other
TOTAL	19		65	688	886	K-12	M, R/LA, Sc, SS, Other

Key: M = Mathematics
R/LA = Reading/Language Arts
Sc = Science
SS = Social Studies

Table 72

Strategy, Scope and Target: Topics as Implemented
(1981-82)

	Topics	Implementation Strategy	# Schools	# Teachers	# Classes	Grade Levels	Curriculum Subjects	Scope*	Time (hours)
Allegany	ML	LS	1	27	22	K-12	M, R/LA, Sc, SS	M:100%; others 10-20% (1-3U per T)	6
Anne Arundel	ML	LS	1	4	4	9-12	Sc	Sc:100%	5
Baltimore City	ML	PD	1	40	57	10-12	Various	5-100% (2Us per T)	3
Baltimore County	ML STL	LS PD	1 2	3 7	3 17	3, 4 3-8	M M, R/LA, Sc, SS	M:100% 15-50%	9 6
Calvert	STL TV	LS LS	1	3 18	4 18	6-8 6-8	R/LA, SS M, R/LA, Sc, SS	3 obs per T, M, R/LA: 100% "content"	8 10
Cecil	AT	PD	4	16	34	4, 6-8	M, R/LA	M:80-100%; R/LA: 20-40%	8
Charles	STL	LS	1	19	35	6-8	M, R/LA, Sc, SS, Other	5-40%	4
Frederick	TV	PD	1	12+	12+	7-12	M, R/LA, Sc, SS	3 obs per T	8
Garrett	AT	LS	1	7	19	7-12	M, R/LA, Sc, SS	M:100%; others 40-80%	9
Harford	AT	DW	26	434	434	1-6	M	M:80-100%	3+
Howard	ML	LS	1	5	5	1, 2	M	M:12% (1U per T)	1
Kent	TV	LS	1	8	8	1-4	R	3 obs per T	3
Montgomery	AT-TV STL TV	LS LS LS	1 1 1	5 7 6	5 21 13	2-5 7-9 6	M, R/LA M, R/LA, Sc, SS M, R/LA	M:80%, R/LA:15% 5-100%	8 6 10
Prince George's	STL	CB	10+	28	41	K-2,4-6 9-11	M, R/LA, Sc, SS	10-25%	6
Queen Anne's	STL	CB	1	6	15	9-12	M, SS, Other	no data	8
St. Mary's	AT	CB	1	10	23	9-12	M, R/LA, Sc, SS	M:80-100%, others 20-30%	8
Somerset	TV	LS	1	2	2	1, 2	R/LA	3 obs per T	5
Washington	STL	CB	3+	20+	30+	4,6,7	M, R/LA, SS, Other	20-50%	7
Worcester	ML STL	LS CB	1 1	5 15	5 14	1, 2 K-5	M M, R/LA, Sc, SS, Other	M:100%	9 7

*Scope: Percent of allocated time for subject selected, and for TV number of observations per teacher.

Subjects Key

M = Mathematics
LA = Language arts
R = Reading
Sc = Science
SS = Social studies

Strategy Key

CB = Capacity building
DW = District-wide
LS = Lighthouse school
PD = Pilot/district

Scope Key

T = Teacher
U = Unit

the three strongest factors influencing LEA selection of an implementation strategy -- of which there were four: 1) district-wide, 2) pilot/district, 3) capacity building, and 4) lighthouse school. In all cases strategies were implemented as planned in the 1981 PEPS.

- The district-wide strategy was used by one LEA implementing AT in all elementary classes (434) in the spring of 1982 for 80% to 100% of the time allocated for mathematics. Continuation at that level plus expansion to all middle school mathematics classes is planned for 1983. This strategy demands the greatest level of effort (because so many people are involved); high enthusiasm by central office staff (transmitted to other role groups); and perceived need by all role groups (especially the superintendent). Since AT is the least complex topic, district-wide implementation was feasible given available resources.

- The pilot/district strategy involves one or a few schools in the first year with commitment from central office to become actively involved in dissemination/implementation to many more schools in subsequent years. Four LEAs used this strategy -- one for each topic -- with two each involving one school, one involving two schools, and one involving four schools. The extent of expansion was not clearly specified in PEPS, but activities underway in two of the four LEAs suggest that several more schools will become involved in the 1982-83 school year. This strategy requires effort and enthusiasm from all involved, particularly central office staff who usually take responsibility for involving additional schools after the first year. LEA central office staff worked actively with other role groups in implementing the topic in the pilot schools, and are planning for expansion. The extent of involvement and progress within the pilot schools is related to topic complexity, with greater expansion probable for less complex topics. However, locally perceived need and commitment are high in the ML LEA, which may overcome the demands of complexity and encourage greater progress.

- Capacity building is essentially a staff development approach which encourages voluntary implementation following training conducted by those first involved with SITIP. Five LEAs selected this strategy -- four for STL and one for AT. In two cases attention focused within one school, with participation objectives attained. In the other three cases, participation was encouraged for many schools. While one LEA met its goals and another exceeded its objectives for the number of schools and classes involved, another set a goal of use by 50% of those teachers trained, and the third hoped for use by 50 teachers in sixteen schools. Neither of those two counties appear to have achieved their goals so far (and plans were for two

years). Locally perceived need and commitment influenced resource allocations so that trainers could invest effort on building capacity and following through, with on-site coaching as new teachers began implementation. Most effort was spent by trainers. Training was conducted mostly by teachers at three sites, mostly by central office staff at the other two LEAs, with school administrators also involved in two counties. The topic developer also assisted in training at three of the STL capacity building sites. Both topics implemented through capacity building are classroom-focused and are less complex than ML or TV. Success relates to the effort invested in training, not only in workshops but also in follow-up assistance.

- The lighthouse school strategy, used in 13 schools by ten LEAs, focuses implementation of a topic in a single school. Success may be broadcast informally and additional schools may elect to adopt the topic, but no formal commitment is made by central office staff to actively encourage or train others. The strategy was used for AT at two sites, for ML at five sites, for STL at three sites, and for TV at four sites. Diverse patterns of interaction and leadership evolved for this strategy, ranging from a small teacher-centered project to a cross-hierarchical team effort. In several cases participants would like to expand to include other teachers or other schools, but that only appears likely where central office staff have been involved and can see the value of the project.

For AT, one LEA has a district-wide strategy, one a pilot/district, one a capacity building strategy in one school, and two have lighthouse schools. For ML, there are one pilot/district site and five lighthouse schools. For STL, there are one pilot/district, four capacity building LEAs, and three lighthouse schools. For TV, there are one pilot/district, and four lighthouse schools. While no strategies were changed from the 1981 PEPS during the first year of implementation, there is some indication that a few of the lighthouse school sites might become more like pilot/district sites. The relative value of a given strategy (in terms of institutionalization from a local perspective, or of widespread use from a more general perspective) cannot yet be determined but may become apparent

in the second year of implementation. The strategy determines how the work is shared among role groups.

School Sites. All types of schools were involved, with all grade levels from kindergarten to twelfth grade. Most teachers were voluntarily involved, but in Harford elementary teachers were required to implement AT, and in some other counties teachers were expected to participate. In two capacity building sites the number of schools in which topics were implemented was less than planned, but the goal was set for a two-year period. In four LEAs the number of teachers implementing was less than planned, but in three sites more teachers were involved than planned. The number of classes involved was greater than planned in five sites. In four cases grade level configurations were changed.

Contrary to conclusions drawn in other studies, no greater difficulties were experienced in secondary schools than in elementary schools. The 16+ secondary schools were involved in all strategies except the district-wide approach and used all four topics and a variety of content areas. There were two differences between types of school during implementation: 1) secondary teachers were more likely to focus on curriculum and elementary teachers were more likely to focus on grade level; and 2) while principals were involved in both kinds of schools, if an additional "leader" was needed it was somewhat easier in secondary schools for a department head or teacher coordinator to have "free" time than for elementary teachers to have necessary arrangements made. However, both groups did attend to curriculum and grade articulation, especially for ML and TV.

Curriculum Subjects. For three topics (AT, ML, and TV) developers recommend implementation in basic skills, with AT focusing of mathematics and ML adding science. Academic curricula are considered most appropriate for all four topics. The most popular curricular areas were: reading/language arts (17 LEAs), mathematics (16 LEAs), science (12 LEAs) and social studies (11 LEAs). The largest range of curricular areas was explored by Baltimore City. Participants indicated most impact was on students and most acceptance by teachers when topics were used for fairly structured curriculum.

Scope and Time. The topics were implemented from between one month and the full school year, with greater time spent than was planned in three cases, and less time spent in four cases. Within the implementation time the scope of use occurred as planned ranging from 5% of the time allocated to a curriculum for a given class, to 100% of the allocated time. Most time was spent for AT and ML on more structured curricular areas such as mathematics. Where STL was implemented some teachers used the topic sporadically. LEAs implementing a topic for at least 50% of the time allocated for the selected subject area for at least five months include: Allegany, Anne Arundel, Baltimore County, Calvert, Cecil, Garrett, Montgomery, St. Mary's, Washington, and Worcester. If that level of implementation is maintained, impact on student achievement should become apparent.

The overall scope and intensity of implementation (number of schools, teachers, curriculum areas, and time used) were determined largely by the strategy selected, but also by the PEPS, which in turn, reflected the LEA felt need or commitment to the topic. Scope was reduced when time and energy were scarce.

LEA Participation in MSDE-Initiated Activities

It was considered important that in each LEA for each topic implemented there should be a core SITIP team including at least one representative of each key role group (teachers, school-based administrators, and central office staff). Team members were encouraged by state staff to participate in all activities initiated by MSDE. If individuals were reassigned it was hoped that their place would quickly be taken by one of their peers. The rationale for the team approach was based on research of planned change which argues that 1) expertise and commitment is increased if those who are to carry out the tasks are involved in appropriate planning and training events, and 2) knowledge shared is more lasting than knowledge held by one individual or by one role group.

Table 73 summarizes participation of the three role groups for the MSDE-initiated activities in training (awareness conferences, summer institutes, follow-ups) and planning (proposal preparation, spring and fall planning). The last column indicates sustained participation in all six activities of particular individuals. Information is presented for each LEA, and separately by topic if more than one topic was implemented.

Ideally, all three role groups should be listed in all seven columns. Baltimore City achieved full participation, with Allegany close, missing only the presence of a school administrator at the spring planning session.

Sustained involvement was important to maintain continuity. Eight LEAs maintained involvement of a central office person, ten LEAs maintained involvement of a school administrator, and eight maintained involvement of a teacher. For six sites (four lighthouse schools and two capacity

Table 73

Participation of Role Groups in MSDE-Initiated Activities

County	Topic	Training			Planning			All Activities
		Conf.	SI	FU	Prop.	Sp. P	Fl. P	
Allegany	ML	1 2 3	1 2 3	1 2 3	1 2 3	1 3	1 2 3	1 2 3
Anne Arundel	ML	1 2 3	1 2	1 2 3	2 3	1 2	1 2	2
Baltimore City	ML	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Baltimore County	ML	2 3	1 2	1 2 3	3	1 2	2 3	
	STL	2 3	1 2	1 2 3	1 2 3	1 2	1 2 3	2
Calvert	STL	1 2 3	1 2	1 2 3	1 2 3	1 2	1 2	1
	TV	1 2 3	1 3	1 2	1 2 3	1 2	1	1
Cecil	AT	2 3	1 2 3	1 2 3	2 3	2 3	1 2 3	2 3
Charles	STL	1 2 3	1 2	1 2	1 2	1 2	1 2	1 2
Frederick	TV	1 2 3	1 2 3	1 2 3	1 3	1 3	1 2 3	3
Garrett	AT	1 2 3	1 3	1 2 3	2 3	1 3	1 3	3
Harford	AT	1 2 3	1 2 3	2 3	data incomplete			
Howard	ML	1 2 3	1 2 3		1 2 3	1 2 3	2 3	
Kent	TV	3	1 2 3	1 2 3	3	2 3	2 3	3
Montgomery	AT	2 3	1 2 3	1 2	2 3	2	2	2
	STL	2 3	1 3	1	3	1	1 2	
	TV	2 3	1 2 3	1 2 3	2 3	1 2	2	2
Prince George's	STL	3	1 3	1 3	1 3	1	1 3	
Queen Anne's	STL	1 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 3
St. Mary's	AT	1 2 3	1 2 3	1 2	1 2 3	1 2 3	1 2	1 2
Somerset	TV	1 2 3	1 2 3	1 2 3	1 3	1 3	1 2 3	1 3
Washington	STL	1 2 3	1 3	1 2 3	2 3	1 2 3	1 2 3	
Worcester	ML	1 2 3	1 2 3	1 2 3	2 3	1 2	1 2	
	STL	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2	1 2

Topic Key

AT = Active Teaching
ML = Mastery Learning
STL = Student Team Learning
TV = Teaching Variables

Activities

Conf. = Awareness Conference
SI = Summer Institute
FU = Follow-up
Sp. P = Spring Planning
Fl. P = Fall Planning
Prop. = Proposal Preparation

Roles

1 = Teachers
2 = School Administrators
3 = Central Office Staff

building LEAs) no one sustained participation in all six activities. At three sites minor problems occurred as a result of lack of sustained involvement: 1) a lack of awareness of other LEA activities required greater dependency on within-LEA resources (knowledge, networking support) in one case, and 2) commitment and energy to implement the topic fully was relatively low in two sites.

Training activities were best attended by teachers, who were represented (for all LEAs) in at least two of the three events -- usually the summer institutes and follow-ups. With the exception of two sites, all LEAs sent school administrators to at least two training events, with slightly less participation in the summer institutes than in the other two events. With the exception of one site, all LEAs sent central office staff to at least two training events with the awareness conferences being the most popular. Lack of involvement in training by central office staff caused no problems, since leadership was assumed by the principal at that site. Lack of involvement in training by school administrators at the lighthouse site may have contributed to feelings of lack of administrative support expressed by teachers. At the capacity building LEA, no problems are immediately apparent since leadership and staff development responsibilities are assumed by central office staff.

Planning activities involved central office staff most although five counties (eight topic sites) did not involve this group more than once. With the exception of four counties, all LEAs involved school administrators in at least two planning activities. With the exception of four counties (five topic sites), all LEAs involved teachers in at least two planning

activities. Only eight LEAs involved representatives of all three role groups in at least two of the three planning activities for a given topic: none of those sites experienced cross-hierarchical communication problems since all role groups fully understood what was to be done.

Low involvement by central office staff caused problems only when two issues were not clearly understood and agreed upon: 1) implementation strategy and its implications, and 2) leadership -- responsibility for troubleshooting and providing support to teachers. For instance, a light-house strategy requires school-based leadership and does not commit central office staff to active dissemination to other schools, and yet school-based staff may need central office assistance or may think they are involved in a pilot/district approach. Such misunderstanding, caused by poor communication during planning, had negative effects during implementation in two LEAs.

In two of the four LEAs with low involvement by school administrators, principals were reassigned. The new principals were subsequently brought up to date by both teachers and central office staff. No problems are currently apparent due to low involvement in planning by school administrators.

In LEAs with low teacher involvement in planning, problems appeared in two cases, both relating to teachers' personal concerns about the impact and demands of the topic and resulting in resistance to implementation. To some extent, these concerns were alleviated by on-site training provided by school administrators and topic developers.

The MSDE-initiated activities were "critical events" serving as focal points for inter-LEA communication and used by some LEAs as opportunities for the SITIP team to clarify their own efforts and check progress. Where role group participation was adequate (at least two groups represented in at least two training and two planning activities -- all except one LEA), fewer communication problems occurred. Where role group participation was adequate and at least one person from each role group sustained involvement in all activities, the only implementation problem that was apparent was that of scope, i.e., plans were slightly more ambitious than could be carried out (two ML LEAs). Where role group participation was adequate and the person(s) assuming leadership sustained involvement (12 LEAs), few implementation problems occurred as long as the leaders shared information with others.

Roles and Responsibilities of Local Implementers

The following discussion explores three areas: 1) influential factors, 2) activities and levels of effort, and 3) interactive support, in an attempt to determine the nature and extent of effort spent on SITIP and how the responsibilities were shared among the role groups.

Influential Factors. There are three main factors influencing patterns and levels of effort: 1) the implementation strategy -- whether it is school or district-based, using a capacity building, pilot/district, lighthouse, or district-wide approach; 2) the nature of the innovation -- its demands and relative complexity; and 3) the organizational norms -- local characteristics which determine decision-making and communication practices.

All topics were used in lighthouse schools (ranging from two for AT to five for ML) and each topic had a pilot/district site (one school per topic except AT which had four schools in one LEA). Only AT had a district-wide LEA (26 elementary schools). Capacity building was used for AT [illegible] with a single school approach for AT and for two of the four STL sites. When site data are combined, there is a dominant strategy for each topic. Also, it is known whether the strategy is designed to included active involvement of central office staff, is essentially school-based, or is teacher driven. The dominant AT strategy requires active involvement of all role groups. ML strategies are school-based and put most demands on the teacher. STL strategies require initial efforts from all role groups but then demand most from teachers. The dominant TV strategy is school-based with most effort required of the observers collecting time data (most of whom are teachers, but all role groups carry out that task).

The nature and complexity of the topics (as designed) suggest that all role groups need to be involved for ML and TV, but AT and STL require much less [illegible] central office staff and school administrators. If ML and TV are implemented as designed and one or more role group do relatively little work, others must make up the difference. Although ML was implemented with fairly high fidelity, only one of the two TV variables was implemented as designed, with the other addressed in part by two LEAs. The topics in order of complexity as implemented are AT, STL, TV, ML (with AT least).

In looking at the data on effort expended, and comparing topics, the following should be kept in mind:

- Active Teaching: Strategies require active involvement of all role groups. The topic as implemented is simple and classroom-based. Scope is larger than for any other topic (33 schools, 472 teachers).

- Mastery Learning: Strategies are school-based. The topic as implemented is complex and suggests a need for cross-hierarchical coordination. Scope is moderate (81 teachers in six schools).

- Student Team Learning: Strategies are primarily teacher-oriented or classroom-based with initial involvement or light monitoring by school administrators and central office staff. The topic as implemented is fairly simple and classroom-based. Scope is moderate (100+ teachers in 20+ schools).

- Teaching Variables: Strategies are primarily school-based with active involvement by central office staff in three of the five LEAs. The topic as implemented is moderately complex suggesting a need for interaction between observers and teachers observed. Scope is low (50+ teachers in six schools).

Activities and Levels of Effort. In each LEA a cross-hierarchical team was committed to implement each of the selected topics for two years. In order to determine level of effort, activity areas were identified and respondents asked to rate them. All role groups were asked to rate the work required by the SITIP topic in comparison to other similar innovations, using a scale of 1.00 (substantially less time) to 5.00 (substantially more time) for five activities: 1) becoming informed, 2) interacting with school personnel, 3) preparing or organizing materials, 4) record keeping, and 5) evaluation. In addition, school administrators and central office staff were asked to indicate their level of effort (time and energy) rating from 0 (none) to 6.00 for six activities: 1) administration (including planning and budget), 2) development of materials, 3) designing and/or conducting inservice, 4) supporting school implementation (e.g., problem solving, supplying materials), 5) dissemination, and 6) evaluation. Data from both sets of questions were analyzed by topic, by LEA, and by role group, and compared with each other, with responses to questions relating to perceptions of support received, and with observation and interview records.

The general pattern of allocation of effort is the same for both role groups with the greatest difference for administration (which is higher for central office staff).

Levels of effort were estimated by central office staff and school administrators for six given areas of activity.* Central office staff levels range from 1.53 (materials development) to 4.13 (support) (see Table 74). Overall patterns of level of effort are similar across topics for central office staff, with the least difference for inservice. Levels of effort for school administrators are similar for each topic on three areas of activity (materials development, training, and support), and for three topics for administration (see Table 75). Small differences are apparent between the four topics for evaluation. Dissemination efforts are similar for Mastery Learning and Student Team Learning, and higher for the other two topics.

Time spent on SITIP topics in comparison to other similar topics was estimated by all three role groups. (See Tables 76, 77, 78.) For central office staff, time investments were about the same for materials development (all topics), and slightly more demanding in terms of becoming informed and interacting with school staff (all topics except STL), and for record keeping and evaluation (AT and TV). STL took about the same amount of time as other projects.

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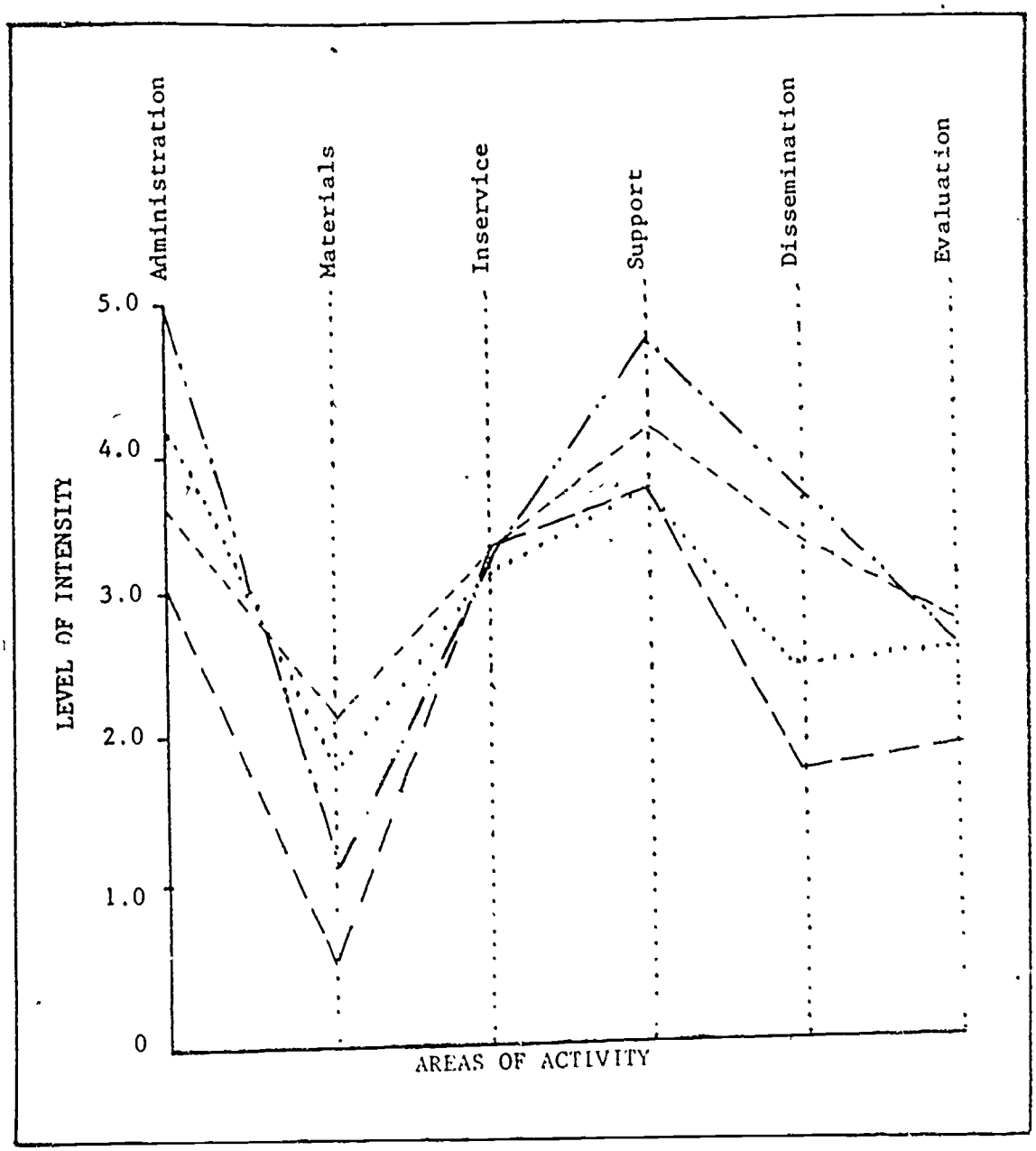
*No data are available for school administrators from Frederick (TV) and Montgomery (STL) and central office staff from Calvert (TV, STL), Montgomery (AT, STL, TV), Charles (STL), and Anne Arundel (ML). However, central office staff in those four counties did not play very active roles in the first year of implementation.

Table 74

Level of Effort: Central Office Staff
(All Topics)

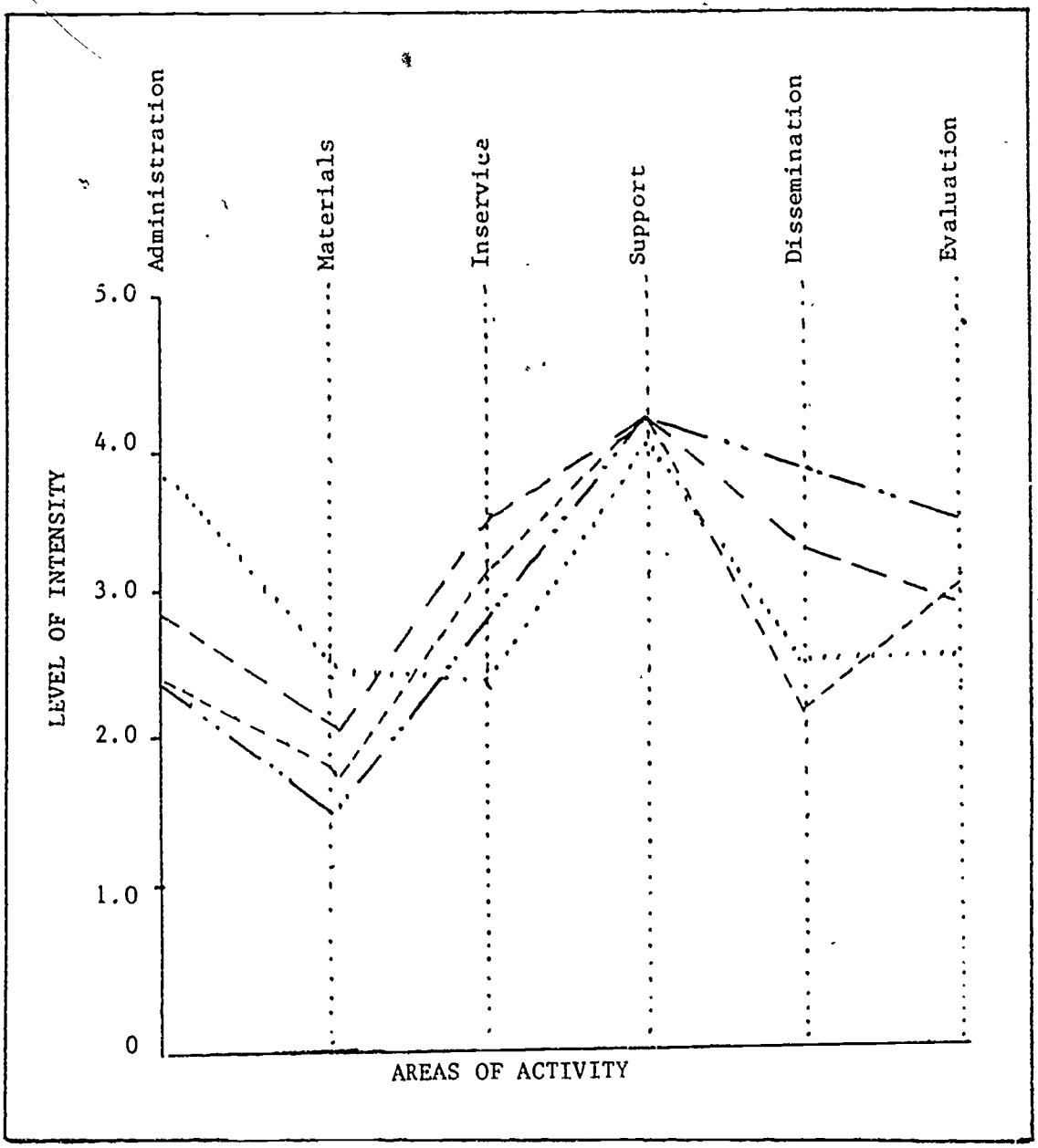


Mean ratings range from a low of 0 (none) to a high of 5 (a great deal).

Active Teaching
Mastery Learning
Student Team Learning
Teaching Variables

Table 75

Level of Effort: School Administrators
(All Topics)



Mean ratings range from a low of 0 (none) to a high of 5 (a great deal).

_____ Active Teaching
..... Mastery Learning
_ _ _ _ _ _ Student Team Learning
_ .. _ .. Teaching Variables

Table 76

Time Spent in Comparison to Other Projects:
Central Office Staff

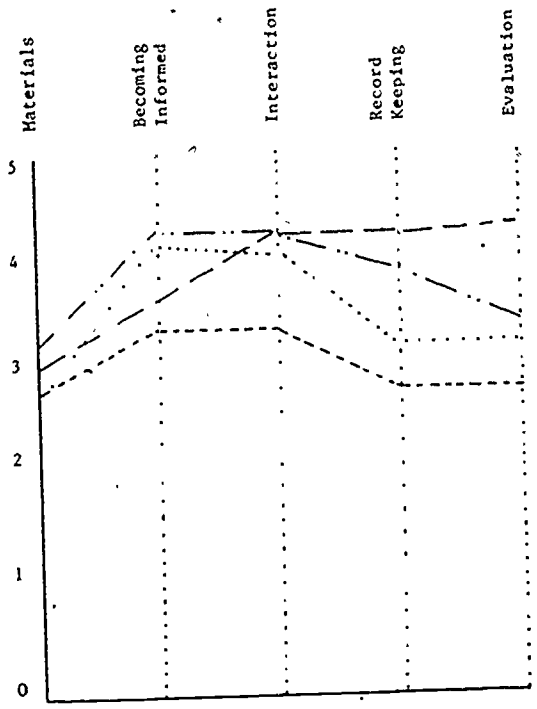


Table 77

Time Spent in Comparison to Other Projects:
School Administrators

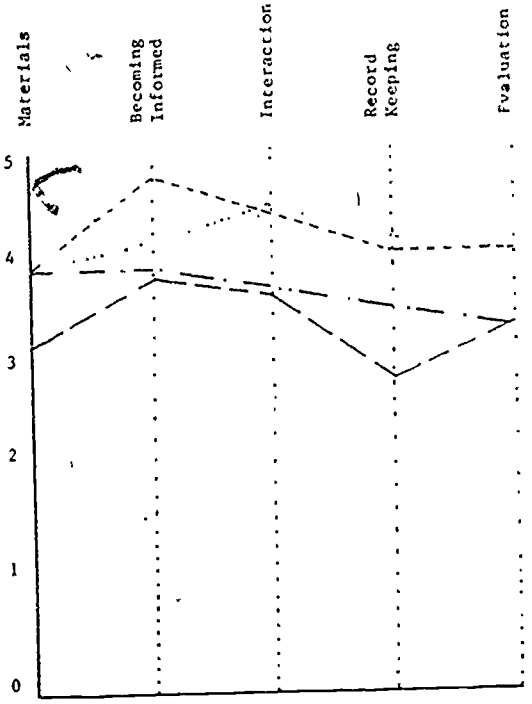
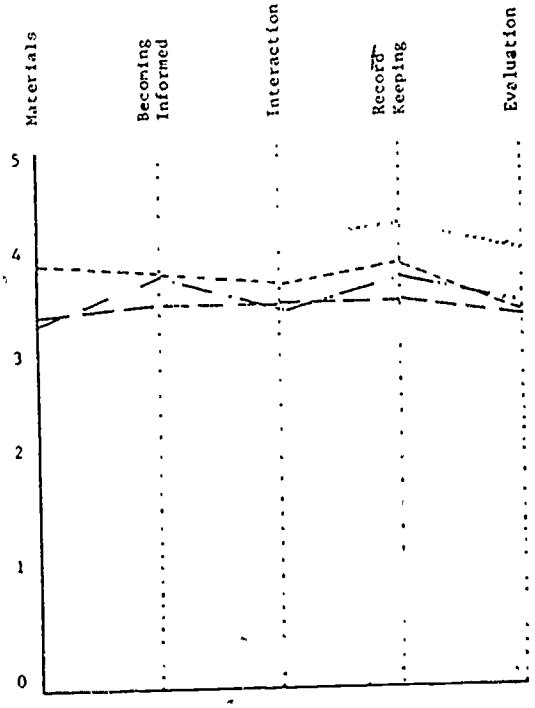


Table 78

Time Spent in Comparison to Other Projects:
Teachers



Mean ratings range from a low of 1.00 (substantially less time) to a high of 5.00 (substantially more time).

_ _ _ _ _ Active Teaching

..... Mastery Learning

- - - - - - Student Team Learning

_ .. _ .. Teaching Variables

For school administrators, SITIP topics took more time than other projects for all activity areas except materials development (AT), record keeping (AT), and evaluation (AT and TV), with most comparative investment in becoming informed about STL.

Teachers found that all topics required more time than other projects in all activities, with ML most demanding in all areas. The least demanding area was evaluation (for all topics except ML).

Given the dominant strategies and the relative complexity of the topics as implemented, the following points are of interest:

- Active Teaching made greater demands on the people organizing and supporting implementation than it did on the teachers using it, with the greatest combined effort spent on learning/training for topic use, and supporting implementation through staff interaction. Teachers found AT relatively undemanding.

- Mastery Learning made more demands on teachers than on other role groups, although both school administrators and central office staff spent time on becoming informed, on interactive support, and on administration.

- Student Team Learning was more demanding for school-based staff than for central office staff, with most combined effort spent on learning/training and interactive support.

- Teaching Variables was relatively undemanding for school-based staff, with central office staff spending most time on interactive support and learning about the topic.

- The average investment of effort, combining all role groups per topic, relates to the complexity of the topic as implemented, with most for ML, followed by TV, STL, and AT.

- The patterns of investment (how work is shared among role groups) are related to the implementation strategy used for all topics except TV. (In that case the nature of the topic influences patterns depending on who carries out the observation tasks. This decision is also influenced by the organizational norms of the LEA.)

Interactive Support. The nature of the strategies selected and of the topics as implemented largely determine the extent and nature of interactive

support among role groups. A third factor is individual commitment, demonstrated by initiative, encouragement of others, and taking on work that needs to be done. These (leadership) behaviors are sometimes linked directly to a (senior) role group, but are also apparent in people with no formal authority. LEA norms also influence interactive support.

In addition to observations and interviews, data were collected about support by asking participants to rate role groups on a scale from very poor (1.00) to excellent (5.00). Results are presented in Table 79. Responses are very strongly influenced by visibility. That is, if respondents came in contact with supporters or saw clear evidence of support they were more likely to give a favorable response (e.g., STL developers were actively involved with all three role groups on-site or at follow-ups and received an overall rating of 4.17). If respondents received support second-hand they were more likely to credit the supporter they saw rather than another who may have developed or organized the support received (e.g., most AT teachers did not come into contact with MSDE staff or topic developers and awarded ratings of 2.88 and 2.96 respectively).

Focusing on local educators' perceptions of each other's support, the following points are of interest:

- Teachers consistently award lower ratings to all support sources than do other role groups, and for all but TV they rate other teachers as less supportive than school administrators. Combined ratings award teachers highest for TV and second highest for all other topics. (TV is the only topic requiring teacher interaction.)
- School administrators consistently award fairly high ratings, perceiving teachers as slightly less supportive than themselves for AT and ML and more supportive for STL and TV, and finding central office staff more supportive for ML, equal to themselves for STL, and less for AT and TV. Combined ratings give school administrators highest scores for all but TV. (The first year of SITIP for all topics is primarily school-based.)

Table 79

Perceptions of Support Received, by Topic and Role

Topics and Respondents	N	Sources of Support: Teachers	School Administrators	Central Office Staff	MSDE	Developers
Active Teaching						
CO	7	4.12	4.12	4.14	4.00	3.57
SA	21	3.76	4.00	3.75	3.56	3.50
T	98	3.45	3.67	3.66	2.88	2.96
TOTAL	126	3.54	3.74	3.70	3.09	3.09
Mastery Learning						
CO	7	4.43	4.14	4.00	3.71	4.14
SA	8	4.25	4.67	4.75	4.50	4.50
T	53	3.39	3.59	3.11	3.13	3.14
TOTAL	68	3.59	3.75	3.39	3.35	3.40
Student Team Learning						
CO	7	4.43	3.86	4.40	4.57	4.71
SA	8	4.43	4.00	4.00	4.44	4.11
T	37	3.66	3.90	3.14	3.90	4.08
TOTAL	52	3.88	3.91	3.41	4.07	4.17
Teaching Variables						
CO	6	4.50	4.50	4.00	3.67	3.33
SA	5	4.60	4.25	3.40	4.40	4.00
T	16	3.56	3.50	2.81	3.25	3.19
TOTAL	27	3.96	3.85	3.19	3.56	3.37
TOTAL						
CO	27	4.36	4.14	4.14	4.00	3.96
SA	42	4.08	4.16	3.95	4.01	3.87
T	204	3.48	3.67	3.36	3.16	3.23
TOTAL	273	3.66	3.78	3.52	3.39	3.40

Mean ratings range from a low of 1.00 (very poor) to a high of 5.00 (excellent).

- Central office staff consistently award high ratings, placing themselves first only for AT. (All four strategies were used for AT, and when staff development occurred it was the responsibility of central office staff at all but one site.)

- Nearly all ratings indicate that each local role group provided very good to excellent support. Average or below ratings were awarded to teachers for AT and ML (by themselves), and to central office staff for ML, STL, and TV (by teachers) and for TV (by school administrators). (As stated earlier, ratings reflect supporters' visibility. They are also negatively influenced if organizational norms block communication across role groups.)

For a topic to be successfully implemented, each site needed a topic advocate or team perceived by local participants as being "in charge." Initially, project directors were named (central office staff or school administrators), but, as implementation got underway, it became apparent that in some cases the title did not necessarily mean that the incumbent provided support and leadership. By the end of the year, most sites had a topic advocate, two had a team sharing leadership, and in two cases leadership (as a source of energy and initiative) was somewhat uncertain. Topic advocates were sometimes teacher coordinators. (In four cases incumbents previously held positions of authority, and in three cases they "evolved" into the leadership role.)

Problems occurred when there was uncertainty about project leadership and when school-based staff were not informed of central office plans or decisions or did not receive materials sent to central office by MSDE or topic developers. Positive affect and high productivity were likely when everyone understood what was to be done and appropriate resources were made available.

The greatest resentment and the least or poorest implementation occurred in cases where school-based staff felt they had been insufficiently

represented in planning/decision-making and were subsequently left relatively uninformed. If kept informed, and if the role group had been represented in planning, even if participants did not like all the decisions, they did implement the topic and they were not hampered by anger and resentment. Decision-making and communication practices were determined primarily by organizational norms, but were subsequently influenced by individual local participants, by the overall SITIP design, and by MSDE-initiated activities.

Summary. As earlier stated, there are three factors influencing the amount of work done, how the work is shared, and how productivity and positive affect are maintained. The factors are: the nature and complexity of the topic as implemented, the implementation strategy (including planned scope) selected, and the organizational norms of the LEA. Points of interest are:*

- The nature and complexity of the topic determine the amount of work that must be done for implementation in a given class or school.
- The nature of the implementation strategy determines how the work is shared among role groups, and the scope determines the number of people involved.
- The organizational norms of the LEA determine how decisions are made and communication maintained. The nature and extent of these processes influence topic and strategy selection and scope planned.
- While changes may be made (and were made) in selection of topics and strategies during planning, changes were not made in those areas during (the first year of) implementation, with the exception of reduction in scope.
- If changes are needed during implementation, they occur through processes relating to decision-making, communication, and coordination -- affecting the organizational norms of the LEA. Such changes were made in many cases, and were far less common for sites where all role groups had participated in planning activities.

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*These findings challenge those of the RAND study of educational change, and expand upon the work of Fullan & Pomfret and Louis, et al.

Impact

For the first year of implementation, objectives focused on getting the topics in place and ensuring that everyone understood what was to be done. SITIP impact (in terms of improvement in student achievement scores or teachers' instructional skills) is intended in the second year for most LEAs. However, participants were asked to judge impact by rating given statements on a five-point scale from strongly agree (5.00) to strongly disagree (1.00). Statements related to instructional value of the topic(s), and impact on teachers and students (see Table 80). Also, during site visits and interviews, additional data were collected.

Instructional Value. Participants agreed that topics were worthwhile and workable, and were not more trouble than they were worth. School administrators were most convinced. STL received the highest "worthwhile" rating, and AT was perceived as requiring least work (for topic value).

All topics were perceived as practical and relevant, with all but TV providing useful new strategies of instruction or clear organizational methods for lesson planning and classroom management. TV observers became more aware of the quality of instruction. However, all topics except AT took time, and for all topics except STL, record keeping was found to be burdensome.

Impact on Teachers. Participants agreed that teachers gained knowledge and skills and enjoyed using the topic, but teachers were less certain of such impact than were the other role groups. In some LEAs school administrators and central office staff stated strongly that topic use had definitely

Table 80

Impact of Topics as Perceived by Active Implementers (June 1982)

Areas of Impact / Topic / Role / N =	Active Teaching				Mastery Learning				Student Team Learning				Teaching Variables				Overall			
	CO	SA	T	Total	CO	SA	T	Total	CO	SA	T	Total	CO	SA	T	Total	CO	SA	T	Total
N =	9	27	125	161	8	8	56	72	7	9	38	54	6	5	16	27	30	49	235	314
Instructional value																				
It is worthwhile/workable.	4.67	4.48	4.28	4.33	4.37	4.81	3.89	4.05	4.71	4.70	4.22	4.36	4.16	4.35	3.81	3.98	4.50	4.56	4.14	4.24
It is more work that it's worth.	1.56	1.70	2.06	1.97	2.75	2.38	3.00	2.90	1.86	2.22	2.03	2.04	1.83	2.20	2.56	2.33	2.00	1.96	2.31	2.22
Impact on teachers																				
Ts enjoy it.	3.89	3.21	3.60	3.65	4.00	4.13	3.48	3.61	4.57	4.22	3.92	4.06	3.50	3.80	3.07	3.31	4.00	3.61	3.59	3.68
Ts gain knowledge.	4.11	3.93	3.53	3.63	4.63	4.63	3.63	3.85	4.14	4.44	4.18	4.22	4.17	4.20	3.75	3.97	4.27	4.17	3.67	3.81
Ts increase skills.	4.33	3.96	3.65	3.74	4.25	4.50	3.49	3.69	4.00	4.25	3.95	4.00	4.17	4.25	3.69	3.89	4.17	4.13	3.66	3.79
Impact on students																				
Ss enjoy it.	3.89	3.67	3.82	3.80	4.00	4.38	3.74	3.84	4.86	4.78	4.32	4.46	3.00	3.80	3.19	3.26	3.97	4.00	3.84	3.88
Ss are more involved in work.	4.44	4.30	3.82	3.93	3.75	4.13	3.53	3.62	4.43	4.13	4.00	4.08	3.50	3.50	3.44	3.46	4.07	4.16	3.75	3.84
Ss increase achievement.	3.50	3.62	3.50	3.52	3.56	3.93	3.37	3.46	3.79	3.95	3.64	3.70	3.09	3.68	3.13	3.21	3.50	3.74	3.47	3.51
Time																				
Ts spend more time preparing Ss.	3.11	2.81	2.71	2.75	4.37	4.00	3.87	3.94	4.00	3.78	3.55	3.64	2.33	2.20	3.06	2.74	3.50	3.12	3.15	3.18
Ts cover curriculum in less time.	3.11	3.00	2.93	2.95	2.50	2.87	2.86	2.33	2.57	2.78	2.37	2.46	2.83	2.80	2.56	2.67	2.77	2.92	2.80	2.70

NOTE: Mean ratings range from 1.00 (Strongly Disagree) to 5.00 (Strongly Agree).

CO = central office
SA = school administrators
T = teachers
S = student

increased teachers' abilities in classroom management and instruction, and some teachers (especially for TV and ML) stressed that they had gained in understanding how their (various) actions or procedures influenced student achievement and time-on-task. However, there was some concern that some teachers (primarily in STL) did not implement the topic "correctly."

Impact on Students. Participants agreed that students were more involved in their work and enjoyed the topics (although teachers were again less certain than the other two role groups, and all role groups were somewhat uncertain for TV). For all but TV, participants found that use of the topics increased student motivation and helped them retain more of what was taught. In general, participants were uncertain if topic use had increased student achievement, although in many cases, they attributed some increase to topic use (usually determined by teacher-made tests). For two ML sites and a TV site, data from national tests indicated significant improvement. However, participants argued that all topics did not allow for student differences, that all but TV might hold back the "better" students, that ML and STL were difficult to implement when absenteeism was high, and that STL was too competitive for some students.

Participant Needs and Concerns

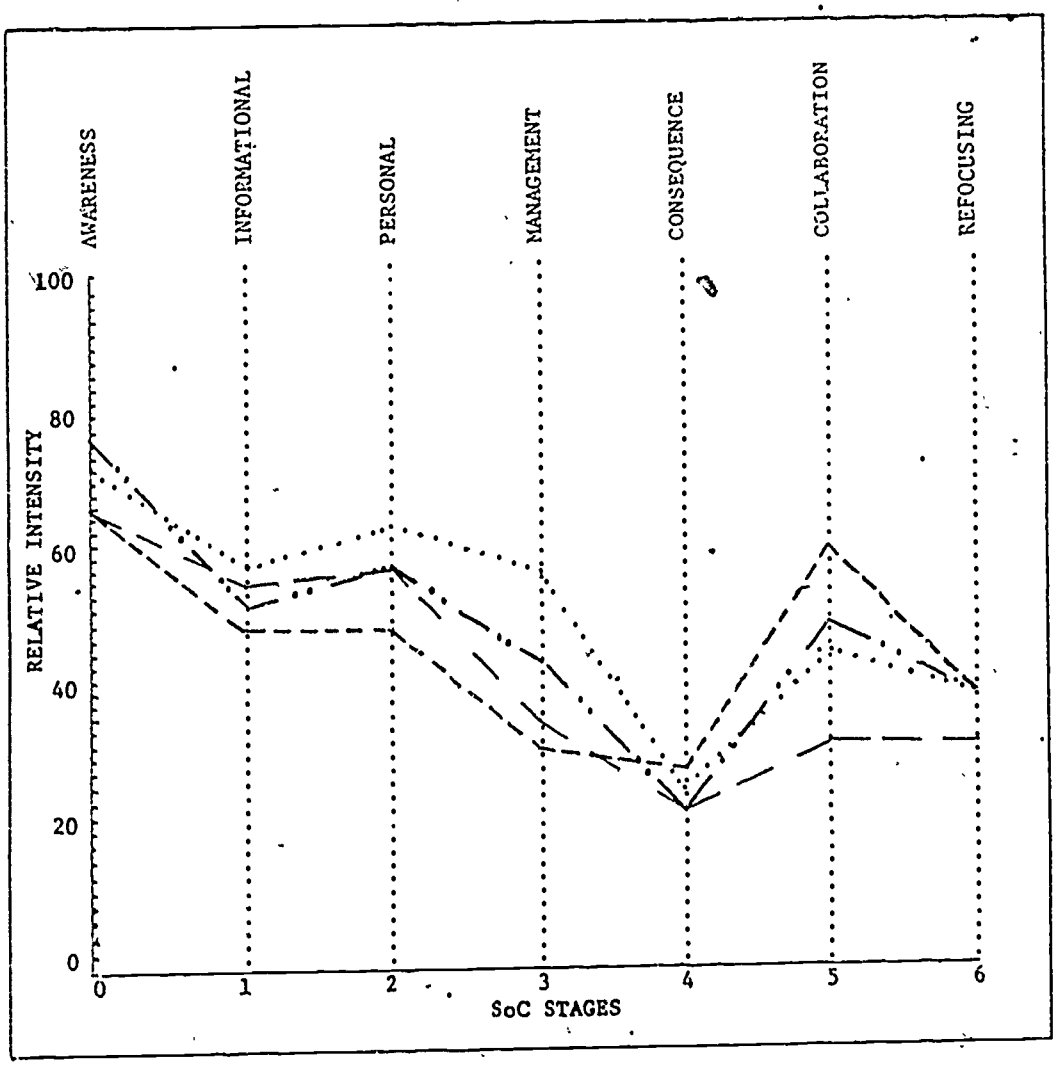
The following discussion presents results of the Stages of Concern Questionnaire (SoCQ)* and reviews needs and concerns identified through surveys, interviews and observations.

SoCQ. Participant responses of June 1982 for the four topics are presented in Table 81, which may be compared with responses made after the

*See Table 4 for a summary of this measure

Table 81

SoCQ Responses, June 1982: A Comparison of Topics



Active Teaching

Mastery Learning

Student Team Learning

Teaching Variables

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1981 Summer Institutes presented in Table 21. The 1981 data suggested that the order of probable successful implementation of the four topics would be: STL, ML, AT, and TV. Also, data suggested problems of implementation for TV related to relatively low interest of some participants. In fact those LEAs subsequently dropped TV. By the summer of 1982, there was more less difference between topics in terms of indicators for success.

The relatively high awareness concerns indicate that SITIP topics are only one set of many activities or projects in which participants are involved -- not necessarily the most important. Informational concerns are slightly lower than in 1981, and it should be remembered that many of the 1982 respondents were trained within their LEAs and do not have a two-year knowledge base. Personal concerns are equal to 1981 or slightly lower, with the highest scores for ML, which, when related to scores on other dimensions, suggest that respondents (mostly teachers) need support. Management concerns increased for ML but dropped for other topics, particularly for the two classroom-focused topics (AT and STL) indicating that most implementers are coping well with topic logistics. Consequence concerns are close for all topics, having increased slightly for TV and decreased for other topics. This dimension relates to participants' attention to topic impact on students (through assessment of achievement), and concern levels may increase somewhat next year. Interest in collaboration -- what other topic implementers are doing, etc. -- remained the same for TV, and decreased for all other topics, indicating that this need has been addressed during the year. Refocusing scores decreased for all topics, indicating that participants do not intend to redesign or drop topics.

The overall pattern of responses suggests that:

- If the SITIP topics are as worthwhile as developers claim and many implementers report, their relative importance may need to be reconsidered (to increase SITIP priority level) by those participants with high awareness scores.

- For all but AT, networking and other activities are needed to continue to address collaboration needs.

- For all but STL, and mostly for ML, personal concerns need to be addressed, which usually means that teachers need clarification about what is expected of them, support in terms of time or materials, and acknowledgement of efforts and accomplishments.

- For ML, and to some extent TV, management concerns need to be addressed, possibly in similar ways to personal concerns, with some technical information also provided.

- For all topics concerns reflect the fact that implementation is occurring as planned, but more complex topics require greater support efforts to attend to personal and management concerns.

Recommendations made by participants for the 1982-83 school year fell into four general categories: support, training, dissemination, and topic changes. Also, about 24% of responses indicated that no changes were needed. Needs are summarized as follows:

- Support needs were defined by respondents as demonstration of commitment and involvement (especially from central office staff), clear communication (especially relating to guidelines or plans), provision of materials, planning time or provision of teacher substitutes or aides to allow for common planning by participating teachers, and problem-solving assistance for teachers. Most such needs were identified for AT and TV. About 15% of responses identified support needs.

- Training or inservice needs were identified by about 17% of the respondents, with most for AT and ML. Several respondents said they would prefer to learn by inter-class or inter-school visits followed by "sharing sessions" rather than by formal workshops.

- While about 21% of responses (about evenly spread across topics) recommended dissemination for expansion of topic implementation to other classes or schools or by use of other variables (TV) or methods (STL), about 3% suggested that implementation should stop or that topics should be used only by volunteers.

- Changes to the topic were recommended by about 24% -- all for AT. It is likely that this group of respondents needs more accurate information about the relative flexibility of the topic, and they may also need to be involved in activities to increase commitment.

Participant needs and concerns appear to relate to the nature and extent of cross-hierarchical communication and collaboration, the implementation strategy used, and the complexity of the topic. That is, fewest needs or problems occur when each role group fully understands what is to be done and can obtain assistance (information, support, training) from each other or from "outside" without too much difficulty. Such effective communication and collaboration are influenced by the level of commitment to or interest in the topic and reflect the organizational norms of the LEA. Demands are greater for the more ambitious strategies (e.g., district-wide implementation) than for, say, a lighthouse school. However, in lighthouse sites, concerns and needs increase if cross-hierarchical communication is poor, since participants seem to experience a sense of isolation and/or resentment at perceived exclusion from needed information. Also, the greater the complexity of the topic as implemented, the greater the need. However, needs relating to topic complexity occur only when communication and collaboration are insufficient for the implementation strategy used.

Summary

SITIP topics were implemented in 65+ schools in 19 LEAs by nearly 700 teachers working with all grade levels and many curricular areas. While TV was only partially implemented and STL sites did not use all three STL methods, topics were implemented with fairly high fidelity. Four implementation strategies were used: a district-wide approach in one LEA, a pilot/

district approach in four LEAs, a capacity building approach in five LEAs, and a lighthouse school approach in 13 schools by ten LEAs. Scope and intensity varied across sites, but ten LEAs implemented a given topic for at least 50% of the time allocated for the selected curriculum area for at least five months.

Participation of role group representatives in "critical events" in planning and training initiated by MSDE was fairly good. Sustained involvement in all six activities by at least on individual was achieved for all except six sites (four lighthouse schools and two capacity building LEAs). Participation in at least two training activities occurred for teachers in all LEAs, school administrators of all but two sites, and central office staff of all but one site. Eight LEAs involved representatives of all three role groups in at least two planning activities. Central office staff were involved in at least two planning activities for all but five LEAs (eight topic sites); school administrators for all but four LEAs; and teachers for all but four LEAs (five topic sites). While role group involvement in training was appropriate and helpful for implementation, low involvement in planning by teachers or central office staff caused problems due to insufficient communication or inadequate participation in decision-making. (Low participation by school administrators did not cause problems because the other two role groups made efforts to get them involved on-site.)

SITIP topics take more time to implement than other improvement projects in which participants had been involved. The amount of work at the classroom level was determined by the complexity of the topic as implemented. The number of people involved was determined by the LEA

planned scope. The way in which the work was shared among role groups was determined by the implementation strategy used. Productivity and affect were strongly influenced by processes of decision-making and communication which were determined by the organizational norms of the LEAs. Most effort for all topics was spent on interaction and support and on learning about or conducting training on the topic. In almost all cases role groups awarded each other average to excellent ratings for interactive support. Lower ratings were influenced by relative visibility of the supporter and by the adequacy of communication and coordination.

All topics were perceived as having instructional value, being practical and relevant, but taking time to implement. However, they were not more trouble than they were worth (although ML teachers were somewhat uncertain on this point). Teachers gained knowledge and skills, especially in classroom management and the organization of instruction. Students appeared to retain more of what was taught and were more motivated (for all but TV). Student achievement gains were made, mostly as measured by teacher-made tests. There was some concern that topics (except for TV) did not allow for student differences.

Needs and concerns relate to support, training, dissemination, and topic changes. Specifically, participants suggest that commitment should be demonstrated, communication increased, plans clarified, materials provided, time made available for team planning or materials development, problem-solving assistance provided, and training conducted or inter-class or inter-school visits arranged. Expansion to other classes or use of additional variables (TV) or methods (STL) was recommended, and clarification or adaption of AT was requested.

All sites did implement topics following PEPS very closely. Improvements were made in the organization and delivery of instruction. In order to maintain or increase productivity and positive attitudes, some changes were made by participants, not to the topic but in the way in which they carried out communication and coordination. Overall, the first year of local implementation of SITIP may be considered very successful.

VII. TECHNICAL ASSISTANCE

This chapter discusses technical assistance (TA) provided by the Maryland State Department of Education (MSDE) in support of local implementation of the four SITIP topics: Active Teaching (AT), Mastery Learning (ML), Student Team Learning (STL), and Teaching Variables (TV).

In terms of technical assistance, this study focused on the seven-month period beginning December 1, 1981. However, some data have been collected on MSDE's role since mid-1980. Following an overview of the research perspectives, some general background information is presented, followed by a discussion of the TA system in terms of leadership, tasks, and successes and challenges.

Research Questions and the Role of the Researchers

The initial research design did not include attention to technical assistance because it was not a part of SITIP at the beginning of the project. However, it was understood that as data were analyzed findings would be used to determine improvements. In the spring of 1981, findings indicated a need for TA. In the fall of 1981, when the interim SITIP report was completed, and the research design revised for the 1981-82 school year, two changes were made relevant to the delivery of technical assistance: 1) it was decided that TA should be studied; and 2) it was decided that an action research model should be used with researchers providing a) reports of critical events within ten days of their occurrance, b) oral summaries of findings during the monthly TA meetings held at MSDE, and c) copies of other studies relevant to TA or the topics implemented.

These decisions were put into practice, and one member of the research team became a participant observer at TA meetings.

For the seven months (December 1981 to June 1982), two questions were addressed by the study:

- What is the nature and extent of technical assistance provided by MSDE in support of local implementation?
- What is the impact of technical assistance?

Each of those questions was sub-divided into elements such as: organization and coordination, problems and solution processes, assistance areas and methods, personal "rewards," local perceptions of TA value, etc.

Data were collected by process observation of all monthly TA meetings and follow-up sessions, and some on-site visits; formal and informal interviews of state and local staff; MSDE and LEA responses to questionnaires; and analysis of logs used by TAs to record all SITIP-related activities. Since not all TAs kept comprehensive records, references to use of time in the following discussion are general estimates.

General Background

The following discussion first summarizes the factors and administrative decisions influencing the formation of a TA system. It then describes TA responsibilities and participation in SITIP during 1981 and the general status of the system at the end of November when more comprehensive data collection on TA was initiated.

Influential Factors

The initial design for SITIP and many of the preparatory activities were carried out by MSDE staff assigned to the Office of Project Basic

(which coordinates the state competency-based education program) and the Office of Developmental Projects (ODP) (which was responsible for MSDE inservice coordination).* Since SITIP was supported by all MSDE instructionally-oriented divisions, staff from the Divisions of Instruction, Instructional Television, and Library/Media Services were also involved in various ways. The original design included awareness and training sessions conducted by topic developers, and follow-up sessions (probably two in the 1981-82 school year) conducted by MSDE staff from ODP. However, the following factors combined to bring about changes in the original design:

- Awareness Conferences provided participants with less practical information than had been hoped for.
- SoCQ data following Awareness Conferences indicated high needs for participants that probably could not be satisfied by the Summer Training Institutes.
- Local plans (spring 1981) indicated a general lack of readiness to implement the topics easily.
- Differences among topics and their varying implementation requirements suggested that people providing technical assistance needed to acquire a great deal of knowledge, and it might be easier to share the workload among more than the (first-planned) ODP staff.
- Other MSDE divisions were willing to become more involved.

Administrative Decisions

With these factors in mind, senior MSDE staff decided that the overall SITIP management (and coordination of technical assistance) should be the responsibility of the Assistant Deputy Superintendent (who was also Project Basic Director), and that a team of technical assistants (TAs) should be

*In July 1981, six months after SITIP began, ODP was reorganized and a new branch of staff development was formed in the Division of Certification and Accreditation. The same ex-ODP staff members, with the exception of the ODP Director, continued to be involved in SITIP.

formed, with members drawn from Project Basic, the Staff Development Branch of the Division of Certification and Accreditation (C&A), the Title I Branch of the Division of Compensatory, Urban, and Supplementary Programs (CUSP), and the Divisions of Instruction, Instructional Television (ITV), and Library/Media Services. Individual TA incumbents were to be "good field people," and knowledgeable about instruction and classroom effectiveness. Together the TA team was to have the knowledge and skills needed to help LEAs plan, provide training, implement, evaluate, and disseminate the topics selected. Division work assignments were to be such that each TA would be expected to spend at least two days a month on SITIP (beginning July 1981). Division directors assigned staff. By the time the spring planning sessions were held, at least one TA had been assigned to each topic (who continued to work on it throughout the project). Soon after, it was decided that technical assistance would incorporate follow-up sessions, and that specific activities would be determined by topic TAs according to the needs of the LEA implementers.

Responsibilities and Participation of TAs in 1981

Two TAs were assigned for each of the four topics, all under the leadership of the Assistant Deputy Superintendent (ADS). Of the eight TAs providing assistance for the 1981-82 school year, five attended the appropriate Awareness Conferences, six attended the appropriate Summer Institute, and seven attended and helped to plan and conduct the fall planning session. For TV, one of the TAs was not assigned until December 1981.* Table 82

*The first person assigned was so reluctant to accept the role that a new designee had to be named and appropriate arrangements made (initiated November 1981).

Table 82

Participation and Assignments of Technical Assistants (1981)

Topic	Division	Usual Role	Training Attendance AC	SI	FU	Planning Involvement Spring	Fall
Active Teaching	Instruction	Branch Chief, Basic Skills (CB)	X	X	X	X	X
	Instruction	Specialist Mathematics (SM)	X	X	X	X	X
Mastery Learning	Certification & Accreditation	Branch, Chief, Staff Development (CD)	X	X	X		X
	CUSP	Specialist, Title I (ST)			X		X
Student Team Learning	Project Basic Library	Administrator (AP)	X	X	X	X	X
		Specialist, Staff Development (SL)		X	X		X
Teaching Variables	Project Basic ITV	Administrator (AB)	X	X	X		X
		Specialist, Instructional Television (SI)					

summarizes usual assignments of TA incumbents and their participation in 1981 events.

In the fall of 1981, all TAs were confident that they understood their respective topics and how they should be implemented in the classroom. They were familiar with LEA plans and (most) knew how to design staff development activities for local implementers. Considered by their peers and supervisors to be knowledgeable in assisting local educators, they understood their responsibilities and thought they could handle the SITIP assignment competently. However, two were concerned that other responsibilities might prevent them from giving adequate attention to SITIP, two wanted to see their topics implemented at a well-established site, and the one who was assigned at the end of 1981 (SI) felt that he had "catching up" to do but would be ably assisted by his partner (AB) and AP (who took responsibility for several general across-topic tasks).

During the first 12 months of SITIP (December 1, 1980 to November 30, 1981) each TA spent between 11 and 45 days on SITIP-related activities. Table 83 summarizes time spent by the seven TAs assigned at that time who subsequently continued to provide assistance to LEAs. On average, each person spent just under ten days learning about the topic assigned and planning topic activities, about seven days on other topics or SITIP in general, and about eight days actually assisting LEAs. Time investments varied slightly among individuals and topics, with about equal amounts of time (45-47 days per topic) spent by TAs involved in AT, STL, and TV, and less (36 days) by TAs involved with ML.

Table 83

Time Spent by Technical Assistants (December 1980 through November 1981)

	AT		ML		STL		TV*		Total	
	#days	means	#days	means	#days	means	#days	means	#days	means
	N=2		N=2		N=2		N=1		N=7	
learning, planning, documenting on topic assigned	20	10	10	5	24	12	14	14	68	9.7
learning, planning, meeting about other topics, or SITIP in general	14	7	12	6	16	8	6	6	48	7
assisting LEAs in planning or beginning implementation	12	6	14	7	7	3.5	25	25	58	8.3

*For this 12-month period, only one person was assigned to TV.

AT = Active Teaching
STL = Student Team Learning
ML = Mastery Learning
TV = Teaching Variables

Since most LEAs did not begin implementation until late October 1981, most TA work until that time was preparatory and administrative: they learned their topics, became familiar with local plans and educators and SITIP in general, and began to see how their regular work related to SITIP.

TAs had no special training, were given no additional help, and were not relieved from any of their usual responsibilities, although there was "official" agreement that each could spend two days a month on SITIP. There were three major factors which supported the incumbents' TA efforts: 1) the overall SITIP design and leadership which combined a sound research base with flexibility for local implementation, 2) the topic partnerships and TA team meetings which maintained communication and facilitated shared decision-making and work assignments, and 3) the commitment and energy of the TAs themselves (which was sometimes strained, but which did not weaken).

The Technical Assistance System

As indicated above, the TA system consists of eight TAs representing four MSDE divisions and the Office of Project Basic. TA incumbents' usual roles are content area specialists (4), administrators (2), or branch chiefs (2). The system is coordinated by the ADS. The following discussion focuses on: leadership, tasks, and successes and challenges.

Leadership

The SITIP design and the TA system reflect MSDE leadership which initially included staff of ODP and Project Basic with direction from the state superintendent and the ICC. It currently includes the same individuals (with the exception of the retired ODP director) plus the TAs.

The philosophy or style of leadership is democratic, encouraging participatory decision-making and voluntary involvement. Interactive communication is practiced not only between individuals or role groups within MSDE or within an LEA but also between MSDE and the LEAs. Actions are usually based on the assumption that educators care about students and want to bring about instructional improvement, and that they will do so if they have access to sound models and relevant information. It is also recognized that state initiatives are not necessarily local priorities, but consensus for action can be encouraged by allocation of grants to LEAs and provision of in-person assistance. Considerable efforts are made to build a sense of shared endeavor. Goals are suggested and choices are offered (including the option of non-participation).

However, within the TA system individual autonomy exists only as long as program implementation is facilitated. If a TA (or partnership) chooses actions which are counter-productive, ADS tells the TA to make changes. This happened rarely, since the TAs are all enthusiastic about SITIP and engage in problem-solving to share successful strategies with each other.

The TAs see themselves as linkers -- linking the LEAs to the knowledge base and topics and networking among sites; as facilitators -- helping LEAs achieve their own goals; as coordinators -- sharing materials and organizing activities such as follow-ups. All TAs agree that their primary objective is to provide assistance to address local needs in order to facilitate implementation. In addition, four advocate encouragement of dissemination within and among LEAs, one acknowledges that TAs ensure that forms and funding procedures are completed correctly, and one notes that

the TAs assisted in the overall SITIP design and the organization of the 1982 Conference -- activities suggesting an objective relating to coordination for instructional improvement. These perspectives and objectives illustrate the MSDE leadership style for SITIP.

System Tasks

There are ten task areas: 1) general administration and budget, 2) planning, 3) knowledge building, 4) materials identification and development, 5) training, 6) general support, 7) site visits, 8) evaluation, 9) communication, and 10) dissemination. Before the discussion of the task areas, use of time and ways of sharing the work are reviewed.

Together these tasks take about 25 person days per month, i.e., each TA and the ADS spends between one and five days per month on SITIP. Levels of effort vary between individuals, but combined efforts for each pair of TAs indicate that for each topic there are about 20 interactions taking a total of three to four days of person time per month. These interactions vary from a ten-minute telephone call, to a statewide mailing of information, to a two-day follow-up training session. Most interactions are proactive, that is, initiated by the TAs (about 65% for STL, 85% for AT, and about 90% for ML and TV).

Work is shared in different ways for each pair of TAs, with decisions influenced primarily by the incumbents' usual roles and assignments. In two cases there is a lead/support relationship, in one case TAs split responsibilities by site, and in one case TAs work as a team. For AT, SM is the key contact for all LEAs, carries out all field work, and is very active in all SITIP activities, while CB is responsible for work that can

be done "in the office." For ML, CD was involved in SITIP before ST, initially perceived the TA tasks as a branch responsibility, and so assigned two staff members to assist ML sites. Subsequently, CD and ST divided the sites between them, although one of CD's staff remained the key contact for one LEA and others were "on call" if needed. For STL, AP was involved with SITIP from the beginning and the key contact for all sites. AP and SL work as a team for all planning, but the former interacts more with LEAs and takes responsibility for several general SITIP tasks, and the latter takes primary responsibility for materials. For TV, AB was involved with SITIP from the beginning and was joined by SI at the end of 1981. They now work as a team. Each pair was free to determine how the work should be shared, but the ADS required that each LEA knew its key contact and that all LEAs received the help they needed.

General administration and budget are primarily the responsibility of ADS, who invites TAs to make requests or recommendations about allocation of funds (e.g., for follow-up sessions), and to participate in decision-making. Each TA partnership is responsible for monitoring LEA use of grants (an average of $5,000 per year per LEA), and for efficiently managing resources allocated for materials and training for a given topic. General administrative and budget tasks are carried out by the ADS and administrators usually reporting to him (one of whom is "outside" the TA system). Combined effort of the TAs on administration and budget takes less than 5% of their time spent on SITIP.

Planning is an on-going process and occurs in several ways. At the monthly TA meetings members review progress and plan improvements. They learn from each other how to facilitate local implementation, and they also

look for ways to coordinate SITIP with other state initiatives or educational groups. For instance, since the 1980-81 Awareness Conferences were considered successful, similar conferences were planned for 1982 and 1983, not strictly a part of SITIP but strongly related since the first focused on classroom effectiveness and inservice and the second on planned change and instructional activities, with all four topics addressed by nationally-recognized researchers. SITIP TAs helped plan these conferences, worked with LEAs to identify local educators who should be invited, and used information and materials to enhance SITIP. Also, TAs explored ways in which institutes of higher education (IHEs) might become involved with SITIP. The ADS involves members of the Instructional Coordinating Council (ICC) in planning by keeping ICC members informed about SITIP and by inviting ICC input. At the end of 1981 TAs were primarily concerned with short-term planning to take care of immediate needs relating to specific local activities. By mid 1982, planning concerns were both short-term and long-term, individual TAs offered more ideas (rather than simply reacting to ADS' ideas), and some members advocated various ways to coordinate SITIP with other activities and groups. In addition to planning within the TA system, there were the MSDE initiatives described in the chapter on planning of this report. While all but one of the TAs were involved in the fall 1981 planning meeting to help LEAs revise or finalize implementation plans, fewer were involved (for their own topics) in the spring planning session, and only two or three were (slightly) involved in reviewing initial local proposals and providing information to LEAs in the early part of 1981. After the fall 1981 planning meeting, however, all TAs were involved in

helping LEAs develop PEPS. The collection of PEPS was duplicated and distributed to all LEAs early in 1982. CD was most involved in early planning activities and AP was most involved in coordinating PEPS efforts. Combined TA effort relating to PEPS takes about 2.3% of time spent on SITIP.

Training (from a system perspective) included the three kinds of MSDE-initiated activities described in the chapter on training in this report. In addition, after each of the Summer Institutes and before the 1982 Conference the developer/presenters conducted training sessions which were open to all MSDE staff. SITIP TAs assisted in planning and participated in these events if they were involved with SITIP at the appropriate time. The extent of responsibility or sense of ownership depended on individual assignments. For instance, although five of the TAs attended the Awareness Conferences, only CD believed at that time he would have continued responsibility for training and assistance -- for all topics at a general level. As incumbents received assignments and understood their role they participated not only out of professional interest but with responsibility to design, organize, or facilitate activities and follow-through on application of training provided. This task area took about 22% of the TAs' SITIP time, with almost all spent on designing, organizing, and conducting the follow-up sessions.

General support tasks took about 10% of the TAs' time and were the most frequent kind of interaction between LEAs and TAs. Most interactions were information exchanges or problem-solving discussions, while others were requests for materials or topic clarification, and some focused on

logistics such as making arrangements for site visits. Interactions were almost all by phone, each required individual attention by the topic TA functioning as the key contact, and several required subsequent action such as linking LEAs with similar interests or obtaining and sending materials.

Site visits took over 40% of the TAs' time, since each topic site was visited at last twice during the 1981-82 school year. These visits were not for compliance monitoring although TAs did gain an understanding of the nature and extent of implementation at each site. In some cases TAs conducted topic training or assisted central office staff in designing or conducting training. TAs always visited classrooms and usually talked with all three LEA role groups. They collected copies of locally developed materials and distributed others. They participated in trouble shooting to address concerns of one or more role groups, and exchanged "good ideas" learned at other sites or from topic developers. They helped LEAs contact topic developers when necessary. In general, they provided resource support (money, materials, an extra body), technical support (expertise, training on the topic), process support (ideas about alternative ways of getting things done), and affective support (recognition and acknowledgement of local efforts). Individual style or degree of formality varied, but all TAs understood local norms and observed local protocol and most tried to establish colleagial relationships with local educators.

Evaluation of SITIP is conducted by RBS. TAs do not evaluate local implementation. Each LEA is responsible for evaluating itself. Since local expertise in evaluation is low and since it is not cost-effective for each LEA to duplicate efforts in development of measures etc., the TAs

explored ways to build local capacity without increasing effort invested. In the summer of 1982, the TAs worked with RBS to develop an evaluation design (with measures) which incorporates elements described in PEPS, requires some activities and offers alternatives for others, and encourages a coordinated effort between LEAs and RBS. TAs will help LEAs to use this local evaluation package during the 1982-83 school year. In the seven months of the study, TAs spent just over 4% of their time on evaluation, mostly working with RBS on the local evaluation package, and also on reviewing interim feedback reports and on helping some LEAs with their self evaluation. Most work in this area was done by AP and SM.

Communication within the TA system is interactive. That is, primarily during the TA meetings and also at other times TAs share information with each other and with ADS and they receive information from ADS. All TAs have equal opportunity to initiate ideas and influence decisions. While ADS sometimes decides what should be done, the TAs usually work together to determine how something should be done. For instance, in the summer of 1982 ADS decided that the ICC and Project Basic facilitators should receive a "progress report" on SITIP: the TAs designed and conducted appropriate presentations. The monthly TA meetings (each taking one to two hours) are crucial for maintaining communication among TAs: ideas and materials are exchanged, progress reports and interim evaluation reports are made, information is shared, planning takes place, and policies and decisions are announced. While the ADS and three TAs (each representing a different topic) attended all TA meetings during the seven-month study, two TAs attended less than 50% of the meetings and on two occasions neither TA for

ML was present. Since the system is somewhat informal, if a TA misses a meeting he or she must either seek out a participant or a participant must seek out the missing TA. Between partners "catching up" on meetings appears to cause few problems as long as the participating TA initiates the information update. However, when both partners miss a meeting they are likely to be informed only if ADS makes a point of assigning a specific communication task to one of the participants. Frequent and interactive communication occurs most between SM, AP, and AB.

Communication between SITIP and other organizational groups is important because SITIP is designed as a collaborative effort, and because if it is to survive and grow it cannot have "project" status but should be incorporated into or coordinated with related instructional activities. Since the TAs are drawn from five MSDE divisions and the Office of Project Basic each can, to some extent, act as a boundary spanner. Since ADS is the chair of the ICC (which is made up of MSDE Assistant Superintendents directing MSDE divisions with instructional responsibilities), and also coordinates the monthly meetings of LEA Assistant Superintendents for Instruction, he too can span boundaries. Through these linkages opportunities were identified to share information among groups and plans were made for further efforts. Since data from the Awareness Conferences identified communication problems, subsequent efforts were made to send messages to several individuals within a given organization (e.g., LEA or MSDE branch or division) and to send important information in more than one way or at several times (e.g., information on classroom effectiveness or instructional improvement is synthesized in documents and video tapes which were distri-

buted in various ways and used during training activities). This synergistic approach to communication (in evidence even in the initial design calling for involvement of cross-hierarchical teams) is purposeful and well-coordinated and has contributed to the success of SITIP since it increases mutual understanding, positive attitudes, and productivity. TAs spend 10% of their time maintaining communication with each other and with coordinating groups. This time includes system planning and some knowledge building.

Dissemination is defined here as involving or informing others about SITIP, beyond those intended in the original plan. To date, SITIP TAs have been involved in two dissemination activities: 1) they assisted ADS in making presentations at a Regional School Improvement Conference, and 2) they exchange information with topic developers and conference presenters who in turn tell others about SITIP (subsequently resulting in inquiries from other states). These activities took about 6% of the TAs time over the seven-month period. Plans are underway to involve professional associations. In addition, since some lighthouse sites may become pilot/district sites, TAs will probably assist LEAs with dissemination.

In considering the ten tasks areas described above, it should be remembered that they are carried out by a team of nine individuals each of whom devotes a relatively small percentage of his or her time to SITIP. It should also be remembered that only two of the TAs report to ADS. The relative success of SITIP does not rest on the use of authority or on formal staff assignments and high resource allocations, but appears to be strongly related to effective communication and collaboration and leadership

which taps motivation such as desire for professional growth and sincere interest in program improvement.

Successes and Challenges

The following discussion explores some of the problems or role constraints experienced by the TAs, the ways in which problems are resolved, the personal rewards of the TA role, and the role accomplishment.

Problems and Solutions. The biggest problem is that TAs have competing responsibilities for their time. While everyone believes that SITIP can have significant impact on instruction and therefore deserves reasonable levels of effort, each TA is held accountable for various other tasks. The fact that the TA role was not built into SITIP from the beginning and that even at the spring planning sessions those incumbents involved then had not been assigned the role as it was finally defined, meant that incumbents experienced confusion and some resentment and frustration as they adjusted workloads and expectations.

In several cases TAs had to learn a great deal in a fairly short time. In some cases the immediate supervisor was supportive of SITIP and helped the TA design his or work workscope so that tasks are interactive (e.g., CB is SM's supervisor. SM's first responsibility is related to mathematics and all AT sites address that subject. SM can legitimately spent time on SITIP, and CB spends less but ensures that SM branch tasks are taken care of). In other cases the supportive supervisor modified the workscope to allow for time to be spent on SITIP (e.g., ADS is the supervisor for AB and AP). However, even if a workscope is modified, supervisors' expectations may not focus on SITIP. In those cases the individual TA must either

contribute his or her own time (and most do) or reduce time spent, and in the latter instance the reduction is for SITIP and not for the division accountability. None of the TAs think they have sufficient time for SITIP (and several believe that demands will increase in the 1982-83 school year). "SITIP is only one of ten things I would like to do full time."

Problems also occur as TAs work with LEAs. These may be characterized as bureaucracy, variety, competition, and energy. In the first case TAs must learn the norms of each LEA and try to untie the red tape to encourage the inter-role group support that SITIP needs. An LEA with a traditional bureaucracy takes the TA's time and energy. Variety among LEAs and the various strategies used means that TAs cannot develop standardized methods or materials, but must respond to each according to the situational needs. Competition among the LEAs also creates a few problems since they do not always remember that each has its own implementation strategy with a scope that each finds manageable. TAs spend time and energy discouraging competition and helping LEAs to benefit from good ideas that can be shared. TAs also find that sometimes energy wanes. This happens to themselves and the LEAs when people are reassigned or a new stage is reached and the only way to progress is for more learning to occur, either by individual reading or some form of training or coaching. It also happens when a local role group is overburdened and considers that the group above them in the hierarchy does not recognize their efforts. Then the TAs must point out achievements and find ways for the local educators to build better interactive support. In some cases LEA energy was low right from the beginning of the project and TAs worked with some for several months to "get something to happen."

One reason for slow startup was reassignment of a key actor. Another was unanticipated events such as teacher contract problems. A third was that some LEAs seemed to think that local plans supported by external funds do not necessarily have to be implemented as long as it looks as if implementation is occurring. This "lip-service compliance" attitude was rare but when it did happen TAs needed patience, persistence, and a thorough knowledge of local norms to facilitate a change resulting in local energy being spent on SITIP.

While all TAs felt confident in their knowledge and skills relating to the process of assistance ("it goes far beyond clinical supervision"), some were concerned about insufficient expertise in specific areas, (e.g., secondary schools), and others found that they needed to know more about the topics and specific elements of the topics than they had anticipated. These needs were addressed by individual efforts -- reading or visits and discussions with experts (sometimes outside Maryland). Relative lack of TA expertise did not appear to cause major problems in the LEAs, although a few minor problems occurred when an LEA had a sophisticated need and the TA (or delegated staff) attempted to assist rather than refer the LEA to an expert. Referencing -- networking LEAs with each other or with developers or expert practitioners outside Maryland -- was an effective way for TAs to cope when they did not have the time or knowledge to assist.

Personal Rewards. The literature on technical assistance suggests that an effective TA is not highly visible, does not create dependency, does not use authority as a power base, is more of a respected outsider than a member of the local family, and yet cannot retreat into isolation

when problems arise. This suggests that TAs with individual motivating drives for personal power, affiliation (affection and inclusion), or isolated autonomy will either be frustrated, or effective only to a limited degree. An achievement motivation supported by a belief in social power (democratic, shared leadership for the benefit of the group) seems appropriate for effective TAs. Incentives that may be provided from "outside" are evidence of group success, acknowledgement by supervisors of individual efforts, and opportunities to learn more or take on additional responsibilities.

In many cases the SITIP system and individual TA attitudes and behavior reflect the conclusions drawn from the literature. The strongest TA drive seems to be achievement in terms of helping LEAs implement their plans as well as possible. One TA has a very strong drive toward social power, and three others (working in different topics) also demonstrate this motivation by facilitating networking and valuing ideas and activities of local representatives in topic events. Six TAs consider their involvement in SITIP to be an opportunity to learn and apply the best available knowledge on instructional improvement and planned change, helping personal and professional growth. Also, one partner in each topic has a secondary drive or style: 1) one is nurturing but does not appear to have created dependency, 2) one has a fairly high affiliation drive which means that he is very accepting of others' activities even when they are somewhat inappropriate for local implementation, 3) one appears to prefer to work alone, but work arrangements with the partner are such that few problems seem to result, and 4) one likes higher degrees of autonomy and visibility than appear

appropriate for the partnership and the TA tasks, but rearrangements of workscopes are being made to resolve this.

In addition to the intrinsic rewards relating to individual motivation or drives, some incentives are offered by ADS. For instance, acknowledgement and visibility were apparent when the TAs made presentations on SITIP to the Project Basic facilitators, members of the ICC, and participants of the Regional School Improvement Conference. (The ADS could have simply circulated written reports, or made the presentations himself, but chose instead to invite TA involvement.) At TA meetings, ADS highlights successes (he also, privately, identifies areas in need of improvement for individuals). Opportunities for additional learning and taking on responsibilities are provided by the ICC (Division Directors of TAs) and ADS through TA involvement in such activities as the 1982 Conference and professional conferences outside the state, through interaction with RBS and people such as Rosenshine and Berliner, and through participatory decision-making which encourages exploration of improvement or expansion of SITIP.

Role Accomplishments. Among the TAs there is agreement that they helped ensure local implementation (not "lip-service compliance"), built commitment, maintained energy, and encouraged networking and sharing among LEAs. ("We prevented atrophy, facilitated, clarified objectives, improved skills, encouraged, found resources, networked.") They did these things while maintaining very good collaborative relationships with local educators. ("Monitoring is easier but it's not useful...the LEAs and MSDE staff grew and learned together.")

The TAs represented MSDE to the LEAs. When local educators were asked to rate MSDE support they were essentially rating the TAs (see Table 79). In examining responses it should be remembered that visibility influenced ratings: if a role group interacted with a TA higher ratings were more likely. (If interaction was fairly high, ratings directly reflect respondents' opinions.) Overall ratings averaged 3.39 (above average), with mean ratings from central office staff and school administrators indicating that they found MSDE support "very good," while teachers rated TAs as "about average." Teachers interacted far less with TAs than did other role groups, especially for AT in which a large number of teachers were involved in a district-wide strategy (and awarded the TAs 2.88, "just below average"). However, ratings from central office staff and school administrators for AT indicated that TA support was "above average" to "very good." "Very good" to "excellent" ratings were awarded for ML by school administrators, for STL by school administrators and central office staff, and for TV by school administrators. In all cases these very high ratings reflect opinions of role groups that had fairly frequent interaction with TAs. They also reflect honest opinions. (In some cases, on questionnaires respondents circled "excellent" twice, or emphasized their response in similar ways. In other cases local educators sought out researchers to volunteer comments reflecting their appreciation of MSDE efforts "MSDE got its act together. This is one of the best things they've done.") The highest ratings were awarded when the TA(s) interacting with a given site or role group directed his or her efforts for the benefit of the local group (team, not a hierarchical faction) by focusing on the local PEPS objectives and the topic as

designed. Somewhat lower ratings were awarded (and none were much below average) when TAs had to deal with local bureaucracy or lack of energy and activities became political, or when TAs gave mixed messages either by lack of consensus between partners (which was rare, and quickly corrected), or by interpreting or expanding upon the topics differently from the topic as designed or as (locally) planned.

An important part of technical assistance consisted of the Follow-ups -- initially designed as cross-topic meetings to enhance training. Discussed in detail in the chapter on training, the Follow-ups were designed and conducted by TA partners. Local needs identified at Follow-ups should have been addressed by TAs. Needs most often expressed were: topic information, resources, and materials (30.56% of responses, with the greatest need relating to STL); opportunity to interact/network (12.5%, with most for AT); specific "how tos" on the topic (11.81%, with most for TV); and dissemination strategies (8.33%, with slightly more for ML than other topics). In most cases these needs were addressed. However, resource allocations by MSDE are considered as high as is feasible and therefore materials and funds were not increased.

The value of technical assistance lies in the extent to which local needs are met by MSDE TAs. Some needs are readily recognized and readily stated (e.g., requests for training materials); some are experienced but not readily stated (e.g., frustration with a situation which prevents the key actors working together); some may not be recognized by local educators (e.g., "compliance" level of implementation); and some may be perceived as needs by one group but not by others (e.g., differing degrees of fidelity

of implementation). Each TA partnership deals with these various degrees of needs, often having to ignore one in order to address the immediacy of another. There is no single prescription for success. However, the following profiles attempt to outline, for each topic, the relationship between local implementation and MSDE technical assistance.

- AT is the least complex topic but all four strategies were used for implementation, and the largest number of local implementers was involved. Since the developers' training had been research-oriented and somewhat confusing to local educators, immediate needs focused on topic clarification. Since so many implementers had not been involved in early SITIP activities, LEAs also needed to apply strategies to build mutual understanding and commitment. As implementation got underway, further clarification and support to maintain energy were needed. MSDE TAs met these needs by building a strong knowledge base, exploring not only the research directly relating to AT, but also information on planned change and effective instruction (especially for mathematics). (The other TAs drew on this expertise.) A focused achievement orientation motivated the TAs to analyze the "real needs" and respond accordingly, even when they were sometimes tempted to "enrich" implementation by introducing extra information or other topics (e.g., STL as a technique for student practice within the AT model). TA behavior seemed appropriate since local needs were not repeated over time, fidelity is fairly high, and energy levels are being maintained.

- ML is the most complex topic, but was implemented in only five schools. Local commitment was high and developer training was adequate. Local needs developed as implementation got underway and realities were understood. Needs were about equally divided between technical expertise (e.g., test development on Bloom's taxonomy that directly reflected objectives and instruction) and organizational problem-solving (e.g., arranging for common planning time, or tying the local hierarchical levels together). MSDE TAs had difficulty meeting these needs, partly because they initially defined their tasks differently (e.g., the purpose and structure of the follow-up), and partly because they organized themselves (including delegated assistants) in such a way that communication suffered. In general, TAs successfully addressed organizational problem-solving tasks, in two sites by serving as the key to avert major problems and linking the local team for positive action, and in two other sites by helping maintain good working relationships throughout the year. (The fifth site had a self-energizing team more in need of technical support than process assistance.) TAs tried to "enrich" before implementers were ready, and they had

insufficient time to develop the level of technical expertise sometimes needed. However, by the end of the year there were strong indicators that TAs for ML had rearranged responsibilities and perspectives which probably will be highly successful for the second year of local implementation.

- STL had the largest number of sites, is relatively simple to implement, and began well because developer training was successful. Developers readily provided assistance on request which meant that MSDE TAs could focus on processes of planned change more than technical know-how (although they do have a thorough understanding of the STL methods). Local needs emphasized materials and included need for more indepth understanding of the STL methods as implementers tried the topic. Few organizational problems were overtly obvious. MSDE TAs had a very strong "social-power" motivational drive backed by a task orientation, resulting in attention to the needs of local implementers (rather than to their own ideas). LEAs were actively involved in planning follow-ups and interacted (with TA linkage) to help each other. Support ratings were highest for this TA partnership.

- TV is the most complex as designed but is less complex as implemented. All LEAs used a lighthouse strategy, most focusing on the "time" variable. Training was complex and somewhat overwhelming and so initial needs were both affective and cognitive (to overcome resistance and confusion). Once coding procedures were mastered, needs shifted to determination of implications (actions/strategies for improvement). At one site, local reassignments and other conditions resulted in need for extensive problem-solving help. Much TA energy was spent on that LEA, and at other sites TAs were more involved in general process assistance than in technical help. With a fairly high affiliation drive, backed by a task orientation, TAs rebuilt the affect (which was so negative after the summer training). Once LEAs were again favorably inclined, and had been consulted in planning for follow-ups, their needs were highly technical. TAs were less able to cope with these needs (and could deal with "time" more readily than with "content").

Overall, LEAs have three kinds of needs: technical/cognitive, organizational/process, group/affective. All can be resolved by thoughtful analysis and application of knowledge about topics, planned change, and interpersonal communication, and all need attention at some time. Each TA more readily addresses one kind of need, but all try to address all three.

In general, TAs accomplished the objectives of the role. However, as LEAs expand there will be more demands on the TAs' time and energy. Also, if SITIP is to become incorporated into state and local instructional activities, a larger number of people (at all levels) need to know about and approve of what is being done. The TAs anticipate these needs and would like to see further allocation of resources (mostly MSDE staff time); real acknowledgement by their supervisors of the legitimacy of time spent on SITIP (either by present incumbents or others); and more interaction between topics, between LEAs, and between SITIP actors and others with responsibility for instructional improvement. They all wish that the TA role had been build into the original SITIP design and hope that they have advance notice of future responsibilities. Their greatest concern is that each site (new and old) needs "energizing" and that must be done by the TAs or by local topic advocates, but some LEAs do not have an advocate that can span school boundaries and the TAs do not have the time to visit and assist every school.

Summary and Conclusions

In response to needs identified in the spring of 1981, a technical assistance system was established to support local implementation. Most of the eight TA incumbents assumed their role in July 1981, with about 10% of their time officially allocated to SITIP. One incumbent was assigned at the end of the year.

Coordinated by the ADS, the TA system reflects, in the way it functions internally and in the way most incumbents interact with LEAs, a democratic leadership style. It is rational since it uses research to make data-based

decisions, flexible since its design allows for useful changes to be made, and democratic since it encourages participatory decision-making.

The system is responsible for: SITIP administration; on-going planning; knowledge building and utilization; materials identification and development; training; general support to LEAs in program management and problem-solving; encouraging local implementation according to local plans often through on-site assistance; assisting RBS and LEAs with evaluation tasks (but not actually evaluating local efforts); facilitating interactive communication among LEAs, MSDE groups, and others; and dissemination of SITIP to others, including those outside Maryland.

Although the system and individual TAs experience problems such as effective use of relatively little time and finding appropriate ways to deal with local problems, in most cases they resolve them, often by rearranging workscopes or tapping relevant expertise.

The TAs are task-oriented, see their ultimate objective as improving students' learning experience, and consider SITIP to provide them with opportunities for professional growth. Extrinsic rewards focus on learning opportunities, participation in decision-making, and (to some extent) visibility within MSDE or outside Maryland. ("It's great to be a part of a significant and successful program like this.")

The nature and extent of local implementation would have been considerably less without the TAs. They provided information and encouragement, established networks and shared successes, and crossed hierarchical boundaries to help LEAs resolve problems. Their efforts were well-received by local educators with whom they interacted, since the TA role was quickly understood and appreciated by almost everyone.

Future needs and concerns relate primarily to the time needed to maintain local energy as new sites are added. Also, there is some emerging evidence suggesting that some LEAs have passed the trial stage and are developing sophisticated needs for highly technical expertise. While some TAs can deal with such needs, others are currently less able to do so. (Influential factors include time, knowledge, and style.) The 1982-83 school year will bring new challenges. Based on evidence to date, the TA system will meet those challenges and build on present successes.

VIII. SUMMARY AND CONCLUSIONS

Previous chapters of this report have discussed major areas of activity. Specific activities and participant roles have been described for each of the four SITIP topics, and reference has been made to impact or results of the interactions between various factors and activities. This chapter briefly reviews activity areas and attempts to synthesize major findings.

Activity Areas

SITIP areas of activity to date included: planning, training, implementation, and technical assistance, all initiated and coordinated by MSDE and all inviting voluntary LEA participation.

Planning

MSDE planning was initiated in mid 1980 with the idea of combining and utilizing some research and some proven practices in order to build practitioner capability and improve instruction. The preliminary design, developed by staff of the Offices of Developmental Projects and Project Basic, was approved by the State Superintendent, by LEA Superintendents, and adopted as a collaborative project by MSDE instructional divisions through the Instructional Coordinating Council (ICC). By November 1980, plans were being implemented to encourage local adoption of Active Teaching (AT), Mastery Learning (ML), Student Team Learning (STL); and Teaching Variables (TV).

Following four topic Awareness Conferences 19 LEA teams developed proposals requesting funds to implement one or more of the topics. In most cases initial proposals indicated that staff commitment was a strong factor in topic and site selection. Proposals also demonstrated a relative lack

of understanding of topic implementation requirements, and did not provide enough information for MSDE staff and others to visualize local implementation.

These factors, plus data collected during the Awareness Conferences, influenced the decision to address two objectives at the scheduled Spring Planning Sessions. The first (already determined by the SITIP design) was for MSDE to invite LEA suggestions for the design and content of the (three-day) Summer Training Institutes. The second was for MSDE to clarify the SITIP design and to help LEAs clarify their own plans. While the first objective was satisfactorily addressed, the second was addressed to varying degrees, with less success experienced for the more complex topics.

Following the Summer Institutes, it was apparent that some LEAs wanted to change or refine their plans. Also, LEA superintendents wanted to see all local plans, preferably in a concise common format. MSDE staff assigned to provide technical assistance (TA) wanted to make sure they understood local plans, and how they could best plan Follow-ups and on-site activities. In September 1981 LEA representatives for all topics attended a one-day planning session at which they were asked to address these various needs by summarizing their (revised or refined) plans on a Promising Educational Practices Submission (PEPS) form. Assistance was provided by the TAs and by the MSDE Title IVc specialist who had adapted the PEPS from forms used to validate federally funded programs. Early in 1982 the collection of PEPS was distributed to all LEAs. The activity helped clarify local needs and intentions and the PEPS format was useful as a communication device. However, some local educators considered the activity political and a waste of time. Analysis of PEPS indicated that some LEAs were still uncertain

about scope and intensity and the effort required, and many had very weak evaluation plans.

While some plans were clarified or refined, others were changed. The most obvious change related to selection of topic (influenced primarily by complexity); others related to the strategy or scope. In general, LEAs made changes to reduce the level of effort needed for implementation.

Training

There were three kinds of training events conducted by MSDE: Awareness Conferences, Summer Institutes, and Follow-ups, each designed to build upon each other.

Awareness Conferences were conducted at two-week intervals beginning December 4, 1980. LEA superintendents from 20 of the 24 LEAs agreed to send cross-hierarchical teams to all four in order to determine whether they wished to implement any of the topics. MSDE staff and faculty of Institutes of Higher Education were also invited. Advance reading materials were sent to all 300 invited guests in November. Each conference focused on one topic and each was conducted by the developer or research team who designed the topic. Benjamin Bloom (ML) attracted a large crowd but provided the least practical information. Thomas Good and his assistant (AT) emphasized research to a greater extent than participants wanted. David Helms and the RBS team (TV) were fairly well received, and Robert Slavin and the Johns Hopkins Team (STL) provided participants with a relevant overview. The Conferences introduced state educators to SITIP and offered awareness level information on instructional strategies proven to be effective in increasing student achievement in academic subjects. In

general, participants had inadequate information for the development of clear or comprehensive implementation plans. Also, communication between MSDE and LEAs and between role groups within LEAs had rarely succeeded in ensuring that participants understood the SITIP design or objectives.

For each topic, developers conducted a three-day Summer Training Institute for local implementation teams and a one-day orientation session for MSDE staff. Results indicated that STL implementers were ready to carry out their plans, ML implementers were ready but had personal concerns about the amount of work to be done, AT implementers were somewhat uncertain, and many potential TV implementers felt overwhelmed which led to some LEAs dropping the topic.

Follow-ups were designed and conducted by MSDE TAs for topic implementers according to their needs. All included local "share and tell" sessions which facilitated networking, and three involved outside "experts" who clarified topic elements and reinforced SITIP validity. For STL each LEA team attended two Follow-ups (with the second including classroom observation of STL), fo AT and ML teams attended a two-day "retreat," and for TV, each LEA team met with two or three others that were geographically close by. Follow-ups helped clarify, encourage, and energize. While local educators enjoyed "enrichment" activities, their needs were better met by activities focusing on the topic or elements needing clarification.

Training activities required considerable resources in terms of time, energy, and consultant fees. Factors contributing to some degree of dissatisfaction or only partially accomplished objectives included: inadequate communication of expectations (among participants and to presenters);

insufficient attention by presenters to expressed needs of participants and to real practical implications for implementation; insufficient opportunity for participants to share their ideas and concerns; and too much information or "off topic" information presented given available time, needs, and energy. Factors contributing to success included: credibility of presenters and validity of topics; use of time that allowed for varied activities, media, and interactions; clearly understood expectations by all involved; attention to participants' needs (in preparation) and to their interests and concerns (during the event); and use of focused, relevant, practical information with a sound knowledge base.

Implementation

In 19 LEAs, at 65 schools, topics were implemented by over 688 teachers in more than 886 classes of all grade levels. Many subject areas were addressed, with mathematics being most popular.

Four strategies were used: 1) district-wide involving all teachers in all elementary schools for one LEA; 2) pilot/district, used by four LEAs introducing the topic in one or two schools the first year with central office commitment to expand; 3) capacity building used by five LEAs introducing the topic through staff development and encouraging voluntary participation; and 4) a lighthouse strategy used by ten LEAs in which a single school is committed to implementation and others may become involved if the "light of success" is sufficiently bright to attract them.

Scope and intensity varied, but ten LEAs implemented the topic selected for at least 50% of the time allocated for the curriculum subject for at least five months.

All topics took more time to implement than other improvement programs in which implementers had been involved. Most effort was spent on interactive support, followed closely by learning/training. Administration took more time for central office staff; materials development or selection took teachers' time; and record keeping, evaluation, and dissemination were somewhat less time consuming than other activities with the exception of AT for central office staff.

In all cases, topics were perceived as having instructional value and, in general, worth the effort expended. Teachers gained knowledge and changed instructional practices. Students showed some evidence of increased motivation and achievement.

Needs and concerns were program-oriented and changed over time as participants learned more or resolved issues. By the end of the first year of implementation, most common needs related to support, training, dissemination, and topic adaptation or clarification. That is, participants wanted help in incorporating the topic, expanding their use, or clarifying the extent of feasible flexibility of the topic.

At the end of the 1981-82 school year, the five LEAs that had not been involved asked if they could participate. TAs conducted brief orientation sessions, topic selections were made, and PEPS drafted so that small grants could be awarded. This made SITIP a voluntary statewide program.

Technical Assistance

Eight MSDE staff were assigned to provide technical assistance in the summer of 1981, each permitted to spend two days a month on SITIP, and all part of a system coordinated by the Assistant Deputy Superintendent. Their

major objective was to facilitate implementation of local plans by providing information, building an interactive communication network, conducting training, and providing on-site assistance. These efforts took slightly more time than allocated, and efforts were unevenly distributed between TA partners with, on average, one spending about twice as much time as the other. No formal training was provided for TAs but they all had field experience, a task orientation, and between them they helped each other to resolve difficulties. Their efforts were appreciated by LEAs and most found intrinsic rewards in their involvement in SITIP. Without the TAs many sites would not have achieved the scope of implementation or have resolved problems as successfully as they did.

The first three areas of activity (planning, training, and implementation) were included in the original SITIP design. Technical assistance was added after MSDE staff reviewed the results of early activities. The four areas addressed, together with the influence of research findings relating to instructional improvement and planned change, made up the design and philosophy of SITIP which resulted in voluntary participation of all Maryland LEAs in a sound program of instructional improvement.

Critical Findings

SITIP is complex, flexible, and to some extent, its relative success is dependent upon the structure and organizational norms of the state. However, some findings of this study may assist others in planning instructional improvement efforts, especially because some clarify earlier studies and others challenge conclusions drawn by other researchers. Findings are presented in a sequence that begins with decisions that might be addressed

by local educators in planning and goes on to issues that intermediate or state education agencies might address.

- Initial staff interest or commitment to implement a new program or practice can be built if: 1) the LEA superintendent permits staff to look at new ideas with the intent to implement if appropriate, 2) the innovation and its presenter/developer have validity and credibility, and 3) staff believe that they do have choices and can influence decisions.

- Staff interest (of all role groups, but particularly those that have the most work to do) is the most important factor in selection of the innovation and in determination of elements of the implementation plan.

- Cross-hierarchical planning facilitates mutual understanding which helps to prevent problems during implementation (such as communication breakdowns, resentment, feelings of isolation).

- Representation of the various role groups in planning and subsequent decision-making builds understanding and commitment, ensures inclusion of role group perspectives, and strengthens organizational knowledge so that if reassignments are made knowledge is not lost and new staff will not be given a one-sided briefing.

- The complexity of the innovation is determined by looking at the extent of new knowledge to be acquired, materials to be identified or developed, methods to be used in the classroom and in the school, and organizational arrangements to be made. Although some generalizations are possible for large scale adoption, in most cases each LEA needs to determine innovation complexity for itself.

- Complexity ratings may differ for elementary versus secondary schools especially for the dimension relating to organizational arrangements which are more easily made in secondary schools than in elementary schools. Also, a curriculum focus reduces complexity for secondary schools while a cross-curricular grade level focus reduces complexity for elementary schools.

- The complexity of the innovation determines the amount of work to be done for a given school site.

- The implementation strategy determines how the work is shared among role groups and how the burdens shift among role groups over time.

- The implementation strategy plus the scope (number of schools, teachers, curricular subjects, grade levels, amount of time for the innovation to be used for each class or subject) determine how much work is to be done within a given LEA.

- The nature and extent of communication and decision-making determine productivity and affect.

- The organizational norms of the LEA determine communication and decision-making procedures.

- Incremental knowledge building with a series of interactive training and planning activities help to build an accurate understanding of the innovation's complexity and potential rewards, and allow revision or refinement of plans.

- Once implementation begins the innovation is usually not adapted and the strategy does not change for the first year.

- Changes made during implementation sometimes reduce scope in order to maintain quality without stressing resource allocations.

- The most commonly changed factors are organizational norms -- communication and decision-making, coordination and leadership -- the way things are done and who does them.

- Changes in organizational norms are influenced by two forces acting almost simultaneously but not necessarily collaboratively: external "pressures," e.g., TA recommendations; and internal "pressures," e.g., topic advocate recommendations or teachers' concerns.

- Regardless of the nature of the innovation all role groups must carry out certain tasks which are, in order of investment: 1) interactive support (acknowledgement, shared knowledge, problem-solving, resource allocation); 2) learning/training (before and during implementation); 3) record keeping; 4) materials identification or development; 5) evaluation; and 6) administration.

- Perceptions of interactive support reflect participants' assessment of each others' commitment. Judgements are based not only on how much useful help was provided but also on the visibility of the supporter (with lower ratings for low visibility).

- It is preferable for each role group to perceive high support from close role groups rather than distant ones. Therefore, visibility should be reduced with distance (e.g., Teachers should perceive principals as supportive. If there is a problem a state TA may help central office staff (who turnkey ideas to the principal) or the TA (with central office permission) may help the principal. But the state TA does not provide support to the teachers when it should more appropriately come from the principal).

- Representatives of all role groups need a thorough understanding of innovations to be adopted so that: 1) plans are realistic, 2) re-assignment do not result in the organization's loss of knowledge,

3) interactive support can occur, 4) no one group is overburdened, and 5) there is a reasonable chance for institutionalization and dissemination beyond initial pilot sites.

- Impact in terms of student achievement was evident to some extent, although not formally expected for the first year of implementation. Results suggest (tentatively) that greatest impact was made by Mastery Learning, followed by Active Teaching. Student Team Learning appeared to influence student affects more than achievement. Teaching Variables data are inconclusive.

- People providing technical assistance (TA) are most effective when they are: 1) responsive to the needs of the group (of implementers), 2) task oriented and knowledgeable about local norms, the innovation, and processes of planned change, and 3) skillful in facilitating shared decision-making and coordinated communication.

- Designs or plans for instructional improvement are most likely to be successful if: 1) participation (of organizations) is voluntary, 2) communication is multi-dimensional, 3) planning is interactive with training, 4) training and technical assistance are provided during implementation, 5) "lip service compliance" is not accepted as implementation, 6) adjustments of scope are considered legitimate and relate to resources available, and 7) each participant has some degree of choice about his or her involvement (nature or extent) in the effort. These elements were present in SITIP.