District programs developed in 1980-83 to address improvement priorities of the Pittsburgh Board of Education include Monitoring Achievement in Pittsburgh (MAP), Pittsburgh's Research-Based Instructional Supervisory Model (PRISM), and the School Improvement Project (SIP). MAP programs in math, writing, reading, and critical thinking bring together explicit statements of learning outcomes, regularly administered criterion referenced tests, computerized printouts of each student's mastery for teachers' planning purposes, instructional materials keyed to identified objectives, and inservice training for teachers and administrators. As a result of the program, elementary students scored at or above grade level for the first time in 15 years. PRISM III is intended to increase student achievement and the effectiveness of personnel evaluation and to manage an enrollment decline. By restaffing a secondary school with the district's best teachers, a teacher center will be established where secondary teachers will be able to spend 8 weeks in order to observe exemplary instruction in a real setting, sharpen their instructional skills, practice new techniques, receive feedback, translate theory into practice, update their knowledge of their specific subject and of teaching technology, obtain a broad perspective on contemporary youth culture, and receive support on return to their home school. (MJL)
In September, 1980 when I assumed the Superintendency of the Pittsburgh Public Schools, I perceived the need to focus the attention of the Board of Education on the district's needs that were of greatest concern to them. I believed that this was important if I was to have a chance to provide effective leadership for the district and if the Board, the staff and the general public were to develop a sense of movement toward the resolution of the district's problems. I discussed my desire to have a Needs Assessment Survey conducted with Dr. William Cooley and his staff at the Learning Research and Development Center at the University of Pittsburgh. A Needs Assessment Survey was developed and pilot tested in the fall of 1980 based on the work of Stufflebeam (1977); the full scale survey was completed by the end of November. The data were analyzed in December (Cooley, 1981) and presented to the Pittsburgh Board of Education in January, 1981. It is important to understand that the Needs Assessment Survey took two forms: (1) a survey to identify the perceptions of the improvable conditions in the district from a broad array of persons; (2) an analysis of existing data that might shed additional light on problems identified through the survey.

The broad based district and community survey, termed the "Dynamic Survey," sampled the perceptions of all levels of employees in the district, including clerks, custodians, teachers, administrators, board members, etc. Business and community leaders, parents of children in the public schools, private schools, and the public at large were also surveyed. The "Static Survey" dealt with the analysis of data available from the records of the Board of Public Education. These data included pupil attendance records, student achievement, teacher absenteeism, and the like. The purpose of the static survey was to see what, if any, relationships existed among the data that might be useful in the Board's deliberations.
Board Priorities

In January of 1981, the Board of Education met in an all-day retreat session, away from their usual meeting place, to review the data from both surveys. Following the presentation, the Board deliberated and reached consensus on two major priority areas: School Improvement; Cost Effective Management. In the area of School Improvement, the Board further identified six school improvement priority areas: (1) improving student achievement; (2) improving the effectiveness of personnel evaluation; (3) managing enrollment decline; (4) improving the ability of the district to attract and hold students; (5) improving the quality of school discipline; (6) improving the performance of low achieving schools.

In February of 1981, the Pittsburgh Board of Public Education, in its formal legislative session, voted these priorities as the primary agenda of the school district. The Board also charged the administration to develop plans to address each of the areas listed in the priority statements by July 1, 1981. Those plans were delivered in July 1981; the Board of Education took the summer of 1981 to review them. In September of 1981, the Board formally approved the plans as submitted. By that time many of the plans had been partially implemented because personnel decisions and financial commitments had already been made to implement plans.

Three of the major instrumentalities to address the Board's priorities will be presented here today: namely, Monitoring Achievement in Pittsburgh (MAP); Pittsburgh's Research-Based Instructional Supervisory Model (PRISM); the School Improvement Project (SIP). The PRISM and SIP programs were supported financially by the Board of Education. The development of MAP-Math was fully supported by the Board. However, The Richard King Mellon Foundation of Pittsburgh provided the funds for leadership and partial development for MAP-Writing, Reading, and Critical Thinking; approximately $500,000 was granted to support the three year development of these programs.

Monitoring Achievement in Pittsburgh (MAP)

The development of (MAP-Math) was begun in November of 1980. I initiated this program because I had a great sense that student achievement would be the top priority of the Board. I felt it important to begin a project that could be readily developed and produce an immediate success. The district needed to focus on positive learning outcomes after a decade of dealing with a difficult desegregation issue. Math was chosen because it is a relatively easy area to work
with; it is easy to gain consensus on objectives and to develop test items. Also, I had prior experience in developing such systems and perceived an urgent need to "move fast" in the area of improving student achievement. MAP Writing and Reading development began in the summer of 1981 when funding for leadership was made available from the Richard King Mellon Foundation. MAP Critical Thinking began in January of 1982 with the support of a pilot test by the Board of Education; full scale development of MAP Critical Thinking began in September 1982.

Allow me to present some information regarding the components and assumptions that undergird the Monitoring Achievement in Pittsburgh program.

MAP Assumptions

MAP is based on four major assumptions (Wallace, 1982): (1) that classroom teachers represent the primary untapped resource in our schools; (2) that tests of any kind must be viewed as imperfect measures of student learning; (3) that teachers must focus instruction and be encouraged and supported in that regard and (4) that the principal must be recognized as the instructional leader in the school.

The experience of the past two decades has clearly demonstrated that if we are to bring about effective change in the schools, the teachers must be involved in the development of that change process and the change instrument (Sarason, 1971, Goodlad, 1975, Hall and Loucks, 1978). Respect for teachers is a key ingredient in the development of any school improvement initiative (Wallace & Reidy 1978); involvement of teachers is a caveat that must be observed if we are to achieve success in modifying the schools and increasing student achievement. Further, the teachers should be recognized as instructional decision makers (Shavelson, 1973, 1976); efforts to improve their ability as instructional decision makers who promote effective student learning should be recognized as the top priority.

A second major assumption of MAP asserts that any measure of student learning is imperfect. Educators must recognize that inferences drawn from the use of multiple imperfect measures (as opposed to over-reliance on a single criterion) is likely to increase the validity of teacher judgements about student achievement. Further, the promotion of the teacher's role as instructional decision maker will be enhanced to the extent that they are encouraged and supported in their use of multiple sources of information in making judgements about student progress. Therefore, student performance on homework and teacher-made tests, involvement in classroom discussion, as well as performance on standardized achievement tests and criterion referenced tests, must all be viewed as contributing to the instructional decision making process.
The third assumption relates to focused instruction. It is our belief, derived from the research on mastery learning, that teachers must focus the attention of their students on a limited number of objectives and insure that virtually every student acquires mastery of those learning outcomes. By focusing the attention of teachers and students, we increase the likelihood of students achieving the desired outcomes.

The research on effective schools indicates that the principal is the key figure in promoting an instructional focus in the schools. It is our assumption that principals can make a significant difference in the effectiveness of classroom instruction and student achievement if they exert an aggressive role in leading instruction in their building. (See Leithwood & Montgomery, 1982)

MAP Components

The components of MAP are: (1) an explicit statement of learning outcomes for each subject area; (2) criterion referenced tests (in multiple forms for each grade level) that contain one item per objective and are administered on a regular basis during the course of the school year; (3) computerized printout of individual student's mastery and non-mastery for use by the teacher to plan instruction; (4) commercially available or teacher made instructional materials that are keyed to and/or related to objectives identified; (5) specific inservice training and support for teachers and administrators to assure effective implementation of the programs.

Throughout the process of the development and pilot testing, teacher involvement was a key element. Groups of teachers were brought together to identify the most important outcomes in their various subject matter areas at all grade levels. Once they achieved consensus, the outcomes were submitted to all of the teachers in the district for concurrence, modification or expansion. Next, teachers were involved in developing items to measure the specified learning outcomes. Through a similar process, their peers passed judgement on the face validity of those items to assess the student mastery of the objectives. Tests were constructed to test all objectives on all occasions using one item per objective. Next, the teachers selected and organized instructional materials to ensure that teachers teach and the students learn the objectives. Finally, the computer printouts were developed and the entire system was pilot tested to insure efficient and effective systemwide implementation.
The most effective providers of inservice training for teachers are the teachers themselves. Those teachers who were involved in the development of the program were used to prepare other teachers to implement it. Further, in each school building a liaison teacher was designated to serve as a building based facilitator to help teachers with various aspects of the instructional-testing system.

How MAP Works

At the beginning of the school year, parents and pupils are provided with a statement expected learning outcomes of MAP along with sample test items so that they know what is expected of pupils. Tests are administered every six weeks in math, and four times per year in writing (analysis of writing), etc. The tests are scored in the central office and within five days of test administration, individual pupil profiles and class profiles are returned to teachers. The individual profiles provide data to students on how well they are doing with respect to expected outcomes. The class profile provides the teacher with an analysis of errors; teachers use these data to group pupils for instruction and develop plans for instruction during the interval between testings. Parents receive copies of their child's profile so that they are also informed regarding progress.

Monitoring of the progress of the students in attaining the learning outcomes is done by both the principal at the building level and by central office personnel in order to insure that student learning is progressing as planned. At this writing, MAP-Math is in its second year of implementation; MAP-Writing is in its first year. MAP-Reading and Critical Thinking are going through extended development and pilot testing in preparation for systemwide implementation in September of 1983.

Results to Date

The results to date have been very encouraging. For the first time in the 15 years that the Board of Education has been publishing the achievement of its students, these students at all grade levels - one through eight - scored at or above grade level in the district's standardized achievement testing.
program in the areas of mathematics, language arts, and reading. As of June 1982, 61% of the students scored at or above grade level in math, 57% in language arts, and 50% in reading. (Pittsburgh Public Schools, Office of Testing and Evaluation, 1982). Our goal in math is to have 75% of the students scoring at or above grade level by 1985. Similar goals will be established in language arts and in reading.

The evidence gathered from a variety of sources and presented at a AERA symposium entitled "An Achievement Monitoring Program: Studies and Implementation and Effect" presents a generally positive consensus about its effects (Sproull and Hofmeister, 1983; Salmon-Cox, 1983, LeMahieu, 1983). Studies carried out in the district link the MAP-Math program to observed increases in the mathematics performance of students. (Salmon-Cox 1982; LeMahieu 1983). From multiple perspectives, it appears that we have captured the attention of the parents, the public, the teachers, administrators, and most importantly, the students themselves. In doing so, we have generated a positive instructional thrust for the district. However, we have only just begun to address the serious academic deficiencies of urban youth.

**Teacher Center PRISM III**

Prism (Pittsburgh's Research Based Instructional Supervisory Model) is the Pittsburgh School District's response to the Board of Education's priority to increase the effectiveness of instruction at the secondary level. Prism I and II, described elsewhere (Davis, 1983) address the general issues of promoting effective instruction and enhanced educational leadership. Prism III as designed was an outgrowth of concentration on three Board priorities simultaneously: increasing student achievement, increasing the effectiveness of personnel evaluation, and managing enrollment decline.

One of the most serious problems facing Pittsburgh is the secondary school drop-out rate. 32% of the students who enter grade 9 fail to graduate from grade 12. Even more startling is the fact that 28% of 9th graders fail to achieve sufficient credits to become bonafide 10th graders. Many of these students are destined to be drop-outs. These significant problems demand attention. Because of student drop outs and the decline in the birth rate, it will be necessary for the district to close three or four of its twelve senior high schools during the 80's. Currently we have seating capacity for 24,000 secondary students; for this 1982-83 school year we have enrolled 14,000 students and by 1990 the secondary population will level off at 9,000 students.
In planning for the management of its enrollment decline, and in reflecting on the need to improve the effectiveness of instruction at the secondary level and to improve our ability to hold students, I recommended to the Board of Education that one of our secondary schools be designated as a Teacher Center. The idea was to take one of our underpopulated secondary schools and make it a model school for teaching and learning for the district. Further, I proposed to the Board that all secondary teachers be provided with a clinical training experience (mini-sabbatical) in order to improve their teaching skills and update their knowledge of their academic field. I suggested to the Board that we restaff one of the secondary schools with the most able teachers in the district and that we provide teachers with an opportunity to spend one quarter of an academic year observing these master teachers in action while engaging in a variety of staff development activities that would stimulate personal and professional growth. Thus the Schenley High School Teacher Center was conceived.

Teacher Center Goal

The primary purpose of the Schenley High School Teacher Center is to provide a clinical experience for each secondary teacher in the Pittsburgh Public Schools. The purpose of the clinical setting is to provide an opportunity for each teacher: (1) to observe exemplary instructional activities in a real setting; (2) to sharpen their current instructional skills; (3) to practice new skills and techniques; (4) to receive feedback on that practice; (5) to translate theory into practice; (6) to receive an update in their specific subject matter areas and the latest research findings in effective teaching technology; and (7) to obtain a broad perspective of modern youth culture and its implication for effective teaching.

Planning and Development Background

Initial planning activities began in the fall of 1981 with the work of a twenty-two (22) member steering committee. In January of 1982, the development process was expanded to include the creation of fifteen (15) satellite committees whose membership included more than 160 individuals including teachers, administrators, university staff and community representatives.
Each of the satellite committees was charged with the responsibility of reviewing and making recommendations with respect to key components of the Schenley High School Teacher Center. The satellite committees met individually from January through May of 1982 and made presentations of final recommendations in May of 1982. The recommendations made by the satellite committees were reviewed by the steering committee and became the basis for the formal plan for the Teacher Center.

The Schenley High School Teacher Center will be characterized by programs for students (both curricular and extra-curricular) which may be replicated at any other high school in the Pittsburgh Public Schools. The current program offerings, both regular and magnet, will be maintained and expanded in terms of the quality and variety of instructional techniques. New magnet programs will be designed in high technology, classical studies and international studies to provide exceptional opportunities to students throughout the city, and to enhance the ethnic and racial composition of the school.

Experience for Teachers

The general structure of the teacher's experience will subsume three phases: (1) orientation; (2) direct involvement; and (3) reinforcement and support.

The first phase (orientation), will be conducted by members of the staff in conjunction with individual teachers and building principals. This phase will include the identification of each individual teacher's needs and the generation of an individualized study plan for each teacher. It is intended that these plans will reflect both the individual teacher's and home school's needs.

The second phase (direct involvement), has been based on an extensive needs assessment (Johnston, 1983) and will occur at the Center. It will include but not be limited to the following:

a. Participation in seminars with peers, center staff, and university, business and industrial personnel;
b. Clinical experience including observation of effective teaching, planning, actual teaching, and pre and post conferences;
c. Fulfillment of individual study plan requirements which may include working with university, community and/or business resources;
d. Training in appropriate new technologies including use of media and computers.
This phase will occur over successive nine (9) week periods reflecting the four quarters of the school year. Replacement teachers will be teaching the classes for the home school teacher while he or she is at the Center.

The third phase (reinforcement and support), will occur at the home school. The purpose of this phase is to ensure the retention of, and to support the teachers in the use of, the skills and knowledge acquired at the Center. This assistance will be a responsibility shared by the Center staff, the home school and other staff, all of whom will have been appropriately trained.

Characteristics

1. Administration
   The administration of the Schenley High School Teacher Center will consist of a principal who will be responsible for all programs. Two (2) Vice Principals will report directly to the principal of the school. The director of the Schenley High School Teacher Center will also report to and work cooperatively with the principal and be responsible for the management of the revitalizing experiences provided for visiting teachers including the pre, on-site, and post components of the experience. Two (2) Schenley High School Teacher Center staff development assistants will report to the director of the Center, and will be responsible for planning and implementing the instructional program for visiting teachers.

2. Advisory Council
   An advisory council has been established to provide assistance to the principal. The council includes representatives of existing parent groups, community and educational groups, and students.

3. Staffing
   The staffing of the Schenley High School Teacher Center will be comprised of teachers who will teach fewer than five (5) periods a day and who will participate in the visiting teacher training program. The support staff, such as counselors and social workers, etc., would be similar to that currently existing in high schools throughout the district. In addition, there
will be a group of approximately 50 "replacement teachers" who will be responsible for teaching the classes at home school sites while visiting teachers spend their eight (8) week periods at the Center.

4. Students
The student body at the Schenley High School Teacher Center will include those students in the current feeder pattern and additional students who sign up for full and part-time magnet programs.

5. Facilities
The facilities will require some space modifications as well as a general upgrading of the existing facility. An architect has been selected and work is underway.

6. Budget
Budget requirements for the implementation of the Schenley High School Teacher Center for the staffing, supplies, facilities modifications and general operating costs will be provided from three (3) major sources: (a) 01 General Fund Budget; (b) private foundation support; and (c) Chapter II funding. The funding for the "replacement teachers" will be offset by a reduction in 01 teaching positions brought about by the closing of Allegheny and South High Schools. It is estimated that the annual operating cost of the Center will be 1.3 million dollars above the normal operating costs of Schenley High School.

7. Evaluation
The planning for the Teacher Center is being documented by the Learning Research and Development Center under a contract with the School District. Part of the overall planning effort has been directed toward the development of a comprehensive evaluation of the impact of the Teacher Center on the Pittsburgh Public Schools. At this writing, the evaluation plan is incomplete.
SUMMARY

In this paper, the processes by which the Pittsburgh Board of Public Education established its priorities has been reviewed. The initiatives relating to improving student achievement - (MAP)-Monitoring Achievement in Pittsburgh - and improving the effectiveness of secondary school instruction PRISM III - have been reviewed. Other papers to be presented will discuss other dimensions of the School Improvement priority of the Pittsburgh Board of Public Education.


Hall, G.E. and Loucks, S.F. *Teacher concerns as a basis for facilitating and personalizing staff development.* Teachers College Record. 80:1. 1978.


