The preceding item was one of the most interesting to us. We wanted to confirm the observation that the preparation ethic (as discussed on page 12:16 and in an earlier part of this chapter) was very strong in the American schools and yet that it conflicted with a belief that teachers had that certain social and intellectual experiences (as discussed early in Chapter 15), broader than course prerequisite skills and knowledge, are at least as important. These data supported both those ideas. A conflict exists between the narrow pursuit of the "basics" and the programmatic intent of many teachers. The fact that the teacher is not highly exposed to the public, that many parents share those ideals, and that many of the youngsters learn the basic skills regardless of what the teacher does probably keep it from being a serious conflict.

TEACHER SUPPORT

In The Unseen Revolution, Peter Drucker referred to the power and sweep of current population changes as a "true revolution," likely to rival Communism and the Industrial Revolution in terms of impact on individuals, families, and societies. "So far," he asserted, "only American society has even tackled the issues of this demographic revolution."*

The case studies and assimilation chapters document the effects of this response on public schools; poignant remarks by teachers, parents, administrators, counselors and students added a human dimension to Drucker's rhetoric. Given its traditional reliance on teachers functioning alone in classrooms with groups of children and adolescents representing the vanguard of this change**, how can the school effectively operate?

In this section we reflect upon support systems for the classroom. To date, most of these systems have added to the labor-intensive nature of education. Fiscal constraints and new priorities suggest that this pattern cannot be continued in the future. Two recent statements outline the dilemma. Calling for a "reassessment of conventional wisdom," Jonathan Sher advocated less employment of rural school consolidation, greater use of "regional service centers" and community-based support systems.*** Meanwhile, the economist Hyman Minsky warned that the "Roosevelt reforms" of the 1930s, though valuable in

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*Peter Drucker. The Unseen Revolution: How Pension Fund Socialism Came to America (New York: Harper & Row, 1976), Chapter 1.

**at a conference on "Communications" we heard the expression: "For teachers McLuhan was a prophet; for students he was an historian".

***Jonathan P. Sher, ed., Education in Rural America: A Reassessment of Conventional Wisdom (Boulder, Colorado: Westview Press, 1977), Chapters 2 and 7.

their time, now obstruct the path of a "progressive and humane society." He concluded with words very similar in meaning to passages found on pp 17:23 and 17:24.

> *Policy must move beyond maniputation within our institutional structure and forward to another creative era of institutional reform.**

Curriculum Coordination. An URBANVILLE site visitor summarized the attitudes of school people, parents and students toward support for teachers (p 5:23):

> By and large, (they) were pleased with the programs of course work in their schools (but) expressed reservations about support from district offices. . . .

In many systems the school district person most responsible and involved in helping teachers with pedagogical and curricular problems was the curriculum coordinator or supervisor. More than other school district personnel, the curriculum supervisor was expected to have responsibility for maintaining and improving the instructional curriculum. Having passed historically from the teacher to the principal to the superintendent, curriculum coordination was (in many districts) eventually delegated to supervisors--advisors and senior educators who would coordinate efforts. The arrangements varied greatly. What the historian found in 1977 was a diffusion of titles, multiple responsibilities, and varied procedures for sustaining and changing curriculum practices in classrooms. The lack of clearly defined procedures for delivering curriculum and staff development--according to Unruh and Turner--led to so much overlapping of responsibility and unnecessary confusion that the effectiveness of instructional supervision has been impaired.*

Understaffed, advisory in nature and usually lacking in political power, unacquainted with the hostility and disorganization of the more recent confrontations, often untrained for the job and reassigned new obligations as part of frequent district reorganization, and with a tradition of teachers in control of the classroom, supervisors faced an almost impossible task. Supervisors of course were limited in authority either to "install" and nurture district-selected curricula or to help teachers with problems. But some saw it differently. A principal in RIVER ACRES pictured his authority in curriculum planning (p 1:9):

> *You want to know why I'm boss here? I'll tell you why I'm boss here. Because I have authority. You need coordinators (at the district level) with real clout if you want an integrated, funnelling program. You need people with authority, not with "supervisory" capacity. That's the way things get done in Texas. Until that happens each principal will run their own school the way he wants to. When the Associate Superintendent speaks, we do it. The others muddy the waters.*

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*Adolf Unruh and Harold E. Turner, Supervision for Change and Innovation (Boston: Houghton Mifflin, 1970). Some critics are quick to presume that organizations have vague charts with little explication of responsibilities that are ineffective. The current problem with curriculum coordination probably lies elsewhere.

Our case studies did not focus on district programs or responsibilities. Still, hopeful of providing the National Science Foundation with information for planning support programs we took the opportunity in the national survey to find out more about the people who coordinate district curricula.

The range of titles used by K-6 math supervisors* in answer to one of our survey questions impressed us as the tip of the iceberg of organizational patterns for managing the curriculum, and of the amorphous quality of the supervisor's role:

science-math supervisor
math supervisor
math coordinator
math department chairman
teacher of gifted and talented
principal
curriculum consultant
math consultant
math-science consultant
classroom teacher of math 5-6
general elementary supervisor
instructional consultant
assistant director of math K-6
Title I coordinator
elementary education supervisor
math specialist
assistant superintendent for elementary
assistant superintendent for instruction
elementary curriculum coordinator
math resource person
field consultant
coordinator math pilot project

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*The people we called curriculum supervisors or coordinators in our national survey were those people named by the superintendent as in charge or most knowledgeable about the district program. Research Triangle Institute obtained the samples by asking superintendents for the names of curriculum supervisors. Their request went on to say: "If there is no district supervisor for a particular category, please provide the requested information for the district staff member who would best be able to answer questions concerning the district program in each subject area and grade range. This person will usually be a member of the central staff, e.g., the curriculum director, the assistant superintendent for instruction, or the superintendent. It is possible that one person could be designated to provide information for two or more categories; we have designed the questionnaires so that each person will be able to provide all of the required information in less than 30 minutes."

At the secondary level their answers revealed a preponderance of administrative and teaching loads over supervisory tasks. About half the respondents at the elementary level had supervision as a primary assignment:

	K-6 Sci	K-6 Math	7-12 Sci	7-12 Math	7-12 Soc St.
	N	N	N	N	N
Curriculum Supervising	67	59	33	34	50
General Administration	31	25	11	16	17
Teaching	27	20	35	41	28
Department Head	1	1	8	4	10
Other	5	5	50	35	46
	131	110	137	130	151

(Using the weights provided by RTI, the percent of people who had supervising as a primary responsibility in each of the 5 categories, all treated as supervisors, were respectively 37%, 24%, 4%, 13% and 16%. The weights reflected the huge number of small superintendencies in the United States.)

We asked about the percent of their employment they devoted to supervising, coordination or consulting with teachers on instruction:

	K-6 Sci	K-6 Math	7-12 Sci	7-12 Math	7-12 Soc St.
10% or less	22%	26%	56%	30%	32%
11% to 25%	17%	37%	13%	13%	26%
26% to 50%	18%	16%	10%	14%	14%
51% to 75%	19%	11%	4%	12%	7%
76% to 90%	4%	7%	2%	2%	17%
90% or more	20%	3%	5%	28%	4%

A substantial proportion were supervising other curriculum areas besides the area (science) (math) or (social science) for which they were asked to respond in the survey.

Do you supervise curricular matters in areas other than (science) (math) (social science)?

	N	%	N	%	N	%	N	%	N	%
Yes	86	67%	65	79%	47	65%	53	59%	64	55%
No	44	34%	45	21%	86	35%	75	41%	82	45%

We asked: to how many teachers do you provide consultation and aid? The medians were as follows:

K-6	science coordinators	: 300 teachers
K-6	math coordinators	: 477 teachers
7-12	science coordinators	: 219 teachers
7-12	math coordinators	: 251 teachers
7-12	soc st coordinators	: 251 teachers

We had expected such a degree of specialization in the schools that each district would have a person more-or-less in charge of coordinating the curriculum in each of the three areas, social studies, math, and science, and that a substantial portion of that person's workload would be devoted to coordination. We did not presume that that was desirable, just that it would be the case.

What we found in our observations in the sites was that persons in the district office would put out bulletins from time to time on curricular matters, that important planning would be made by committees of teachers and administrators and other resource personnel, and that the teacher seldom was personally in touch with a curriculum coordinator per se. The picture from the survey gave partial confirmation to that, indicating that those most in charge of or knowledgable about the curriculum, as designated by the superintendent, were people who had many and varied responsibilities and could devote only a minor share of their time to coordination, and on the average had in excess of 200 teachers to work with. There were very few people available outside the classroom to provide quality-control for the curriculum and assist teachers with pedagogical problems.

Perhaps one of the reasons why a district would not provide more assistance (suggested in the earlier part of this chapter) was that teachers and supervisors emphasize different purposes and values. Lou Smith reported a dilemma of this sort in ALTE (p 3:25f):

> First and perhaps foremost is the tension or dilemma between the bureaucratic/organizational tendencies and the individual/professional tendencies. On the one hand the organization is continually striving for rationality--agreed upon goals and priorities, clarity of procedures and organizational mechanisms, responsible supervision. That is, there are committees with domains of activity and chairmen responsible for their functioning. On the other hand, . . . there are highly trained, competent professionals in schools and classrooms who are selected, hired, and expected to know what to do in their own domains, to choose and decide intelligently and responsibly, and who exercise and enjoy their autonomy.

Perhaps the more advanced training a supervisor or curriculum coordinator receives the less likely he/she is to be sympathetic with the uses teachers make of math, science or social studies to socialize students into the school's behavior norms and the more

likely they are to stress intellectual motivation, interesting materials and devices which teachers fear will make their pupils dependent on them and unwilling to tackle the drudgery they see ahead.

Whether or not teachers want help from curriculum and pedagogical specialists is an interesting question. Not unexpectedly, they wanted more of the good help they had had and less of the bother masquerading as help. A high school science teacher in BRT expressed an unusual point of view (p 4:7):

> *There is one thing I miss about a larger school though. The one I was at before gave a free period to the department chairman and he'd come watch us teach and offer constructive criticism. . . . There's no one in my area who can come and say, "Now this might be a better way to do this."*

Many were dubious that the district, or the college of education, or any other agency would have someone who could help. But still most were willing to try. We did some checking as to what service or help they wanted from a supervisor.

When survey respondents ranked the importance of five responsibilities of the science curriculum supervisors, assistance to teachers with teaching problems ranked highest. In regard to coordinating testing with curriculum development, respondents did not see that the curriculum people are insufficiently governing the testing. Supervising the collection of student performance data ranked low.*

Please rank the importance of responsibilities of a science curriculum supervisor--as you would like it to be. Rank "1" as the most important on down to "5" as the least important.

Importance of responsibilities of a science curriculum supervisor
...as K-6 science supervisors would like it to be:

Median rank	
1.3	Assist teachers with problems they are having with teaching
2.0	Provide information about different teaching methods and materials
3.1	Assure that a high level of subject matter is maintained
4.1	Assist administrators in getting funding for programs
4.3	Supervise the collection of student performance data

...as 10-12 grade principals would like it to be:

1.6	Assist teachers with problems they are having with teaching
2.3	Assure that a high level of subject matter is maintained
2.3	Provide information about different teaching methods and materials
4.3	Supervise the collection of student performance data
4.4	Assist administrators in getting funding for programs

*See (p 18:50) for further explanation of this ranking.

When survey respondents were asked about talents or background experiences supervisors should have, they seemed to be indicating what it takes for supervisors to gain credibility with teachers--recent full-time teaching experience. They also revealed the kind of help teachers have said they want when they indicated the importance of other background experiences of supervisors--especially skill in diagnosing individual student learning difficulties, and knowledge of sources of curricular materials. Teachers saw little opportunity or need (we don't know which) for supervisors interpreting testing in the district and classroom. This seemed to say that it is more the responsibility of curriculum coordinators to help fit curriculum to the testing than vice versa. We asked:

> Which of the following background experiences or skills do you think are highly valuable for a (mathematics) (science) curriculum supervisor or coordinator? (Check as many as you wish).

	K-6 Math Supervisors %	7-12 Sci Supervisors %	K-6 Principals %	K-6 Teachers %
Recent full-time teaching experience	89%	59%	96%	97%
Administrative experience	45%	58%	35%	20%
Continuing enrollment in graduate (math) (science) course	43%	19%	31%	27%
Having done curriculum research and development	36%	26%	35%	36%
Skill in diagnosing individual student learning difficulties	83%	76%	43%	83%
Skill in arranging inservice programs	50%	38%	73%	45%
Skill in interpreting test scores for whole classes or schools	54%	53%	30%	42%
Knowledge of recent (mathematics) (science) discoveries	64%	35%	39%	64%
Knowledge of sources of curricular materials	82%	89%	89%	71%
Ability to "speak out" to protect the curriculum	68%	73%	35%	64%

While principals and supervisors divided their opinions, parents thought teachers to be not only in the best position to be knowledgeable about curriculum needs, but also to be the experts, when we asked:

In your district who is the person (or who are the persons) most knowledgeable about whether the curriculum needs improvement of one kind or another?	K-6 Science Supervisors	10-12 Principals	Parents Seniors
Superintendent or Asst or Assoc	11	2	14
Principal	22	13	14
Curriculum personnel	39	19	8
Teachers	49	16	22
Students	2	1	4
No one knows	2	0	1
I don't know	0	1	26
Other	7	1	24

Teachers expressed concern about the lack of material support and with the organizational problems of teaching, less about the poor state of inservice training. Teacher educators had been stressing the importance of inservice training in the next decade, but many teachers did not consider that a major need. Perhaps again they seeing inservice personnel all too seldom oriented to helping teachers with existing problems or with adaptations of subject matter to fit the abilities and temperaments of the students, and not expecting that investment there would pay off.

Support systems were very much a part of the political side of schooling. In ARCHIPOLIS observer Hill-Burnett discussed the impact of decentralization on inservice support (p 9:3):

> From the teachers' point of view, before the "decentralization plan" had gone into effect, the central board of the school system had provided "department" (translate that subject-matter) specialists to go to local schools. Their activities and functions had varied somewhat from elementary, to junior high, to high school. At all these levels, the teachers now expressed some sense of loss about those functions. They still dealt with the district office for support personnel; but the support personnel were no longer categorized by subject, or "departmental," specialization. They further saw the process of securing help from these personnel as a question of new competition for resources, perhaps challenging budget priorities in the local school. The decision about when to call the support service was transferred to the local school and the teachers in it.

In RIVER ACRES, a teacher described to a site visitor the district's policy on supervision:

> *Supervision is "nowhere." The [school] board feels we have too many administrators. They fail to make the distinction between administration and teacher in-service help. This means curriculum construction and implementation is pretty much editing in the district office. No help goes to the classroom teacher directly.*

And another said of science activities and investigations; and their implementation:

> *Elementary science is an unnecessarily scary thing for teachers. The technical complexity is not that great. Teachers really do not need to know that much. It is just that we are not prepared to teach it, have bad memories of freshman biology in college, and get no in-service help to speak of (p 1:25).*

Terry Denny commented on one kind of help teachers asked for on p 1:32 of RIVER ACRES:

> Teachers did not call for research or for evaluation of instructional materials or the curriculum. They want help, now. They have three widespread concerns. My notes contain thirty-seven separate pleas (not all elementary) for materials, procedures, aides, or supervision for slow children in mathematics. The harshest self-criticism made was in the mathematics instruction of students in the lower levels.

Teachers there called for inservice cross-grade meetings and vertical communication to replace "failure" of supervision to coordinate the curriculum (p 1:38f).

Continuing Professional Education. Our observers found the teachers engaged in occasional staff meetings, a diminished program of inservice training, and some continued enrollment in university courses. Some districts were increasing the formal obligation of teachers to be explicit about their professional growth goals for the year, but even there the continuing professional education activities were meagre.

Three reasons were heard: (1) the number of inexperienced teachers on the staff was smaller;(2) the incentives for earning course credits and advanced degrees have diminished; and (3) the money available to support resource persons has also diminished.

Staff meetings appeared to be for the purpose of improving organizational arrangements and distributing information rather than for the purpose of giving assistance to the teacher with pedagogical problems.

We heard some comment about increased involvement of union and professional organizations in providing inservice training, but for the most part teachers and administrators expected the responsibility to continue to be shared by teachers themselves and college professors.

To help us understand what school people thought universities might do to assist in inservice training, a Scenario X survey item was put this way:

> One Cyrus Knight School teacher said, "Schools and universities are headed in different directions. Schools want more and more to teach what parents and students believe is useful. Universities want to stress theoretical ideas, the search for Truth." Is this a problem?

7-12 Math Supervisors		7-9 Science Teachers		Responding
N	%	N	%	
36	18%	35	30%	No
24	27%	14	29%	It causes some problems, but that is just the way things are.
15	29%	11	12%	Yes, a problem, mainly because schools no longer see what education is.
9	9%	9	13%	Yes, a problem, mainly because universities just are not interested in people.
44	17%	23	16%	Other

Despite the different educational aims advocated by the curriculum developers and science education specialists, as compared with many teachers in our sites, the differences between most university faculty and school teachers did not appear highly troublesome to these respondents. When we asked what universities could do to help, we found that what is wanted is pretty much what universities are now doing.

What could universities do to be of most help to teachers? (check only one)

7-12 Math Supervisors N	7-12 Math Supervisors %	7-9 Science Teachers N	7-9 Science Teachers %	Responding
21	23%	26	43%	Develop curricula appropriate to the times
27	13%	16	16%	Run inservice workshops and institutes
26	27%	15	12%	Offer courses oriented to teacher needs
4	0%	5	3%	Establish teacher centers
6	3%	6	6%	Sponsor teacher networks for mutual help
44	33%	23	20%	Other

Survey respondents were also asked about what the federal government could do to support science education teaching in the schools. Four forms of inservice services were ranked the highest:

Hire and pay resource people to help teachers with their teaching skills.
Provide additional institutes for the improvement of teaching.
Develop science courses oriented to present and future job markets.
Provide films and lab materials to schools at low cost or no cost.

We were surprised to find these ranked toward the bottom:

Provide free telephone networks for teachers to help other teachers.
Undertake a public campaign to promote "scientific literacy."
Subsidize the early retirement of ineffective teachers

Because the National Science Foundation has a high responsibility for providing support for science teachers (including math and social studies teachers), we asked about support. Several items in the survey suggested how different groups see ways that a supervisor might be of help to teachers. Math teachers appeared to most want specialists who write and arrange things for teachers. They also expressed interest in help, especially with diagnosis and with other staff development activities. We were surprised to find so little support for teacher-run institutes. Teacher centers were supported more by elementary

teachers than supervisors perhaps because such centers operate outside the usual lines of supervision and stress the authority of teachers over the curriculum.

The following support* could be implemented at the district level:

What sorts of support do teachers in your schools need? (check any number)

116 K-6 Math Supvrs N	81 7-9 Math Teachers N	Responding
49	26	specialists who visit each classroom perhaps once a month
59	39	teacher centers where teachers can take their problems
11	8	toll-free telephone numbers teachers can call for help
67	50	a network of teachers willing to help with diagnoses

Which of the following do you believe are of substantial help to teachers having problems teaching basic math? (check any number)

116 K-6 Math Supvrs N	81 7-9 Math Teachers N	Responding
17	12	university courses in math
41	31	university courses in math education
52	36	staff development featuring presentations by visiting experts
90	40	staff development seminars with other teachers talking to a consultant
62	45	staff development workshops involving only the teachers

*Other teacher suggestions about inservice support activities may be found in answers to open questions in Chapter 18.

What is your feeling about summer institutes such as NSF has sponsored? (These are institutes involving full-time enrollment in special sections of college math or science courses, with some help from education professors.) Check one or more.

116 7-12 Math Supvrs		81 7-9 Sci Teachers		Responding
N	%	N	%	
86	54%	49	53%	They do a good job of giving teachers ideas, contacts, and confidence.
25	25%	10	15%	They are good for good teachers, not very helpful for teachers really needing help.
18	13%	9	9%	They are not as valuable as institutes run by experienced teachers.
66	37%	42	52%	There should be more of them so that all teachers needing them could enroll.

A sizeable proportion of the science teachers in the sites had attended NSF Institutes.* The percent in each category who had been to at least one Institute were:

Teacher sample	Responding yes		Average number of institutes (weighted)
	N	%	
Science: grades 7-9	39	41%	3.0
Mathematics: grades 7-9	24	31%	3.2
Social studies: grades 7-9	7	12%	1.3
Science: grades 10-12	52	46%	1.3
Mathematics: grades 10-12	38	31%	3.2
Social studies: grades 10-12	4	10%	2.5

*See (p 18:23 for report of data on participation in inservice and preservice courses in addition to NSF Institutes.

A math teacher at WESTERN CITY said (p 7:35):

> *The NSF Institutes that I attended were well worth all the money. I'm sure that if I had not attended these institutes I would not have been able to do as good a job as I have done. A college graduate with a degree in math is not really prepared to teach high school. They don't teach you how to deal with kids and you also don't get much of a chance to get your head together with respect to math instruction. All math teachers should be encouraged to take an NSF Institute at least every five years.*

One negative comment--in reference to a curriculum institute--came from RIVER ACRES (p 1:158):

> *I believe I was lied to at those institutes. The techniques never did work out right back home. Wisconsin and Kentucky teachers said the same thing to me. It isn't the same back home. The deck was stacked somewhere, teachers looked like they were doing things with the kids that they weren't maybe.*

This criticism seems to be more of "the curriculum" than of the institute, however. The positive feeling toward institutes is also reflected by survey responses to an item asking what the federal government should do to support science teaching in the schools. The respondents were to check three things from a list of eleven that they felt most worthy. One choice was "provide additional institutes for the improvement of teaching." The percentages of respondents selecting this choice were:

46%	Administrators
61%	Curriculum Coordinators
31%	Teachers
24%	Students
32%	Parents

Responses to another survey question indicated again the lack of support among teachers for teacher-run institutes but indicated the preference for additional expertise.

That the institutes have been seen to have a good impact seemed clear. Among many federal programs of support for curriculum and teaching, the institutes were mentioned to us most often and in a positive vein.

A science education consultant in a State Department of Education volunteered an observation of support for this point. He wrote:

> . . . *the inservice institutes that NSF sponsors are perhaps the only well planned, well thought out inservice experiences science teachers are exposed to.*

The cynic might say that the positive effect stems from the financial support that teachers received and the opportunity to socialize. Very likely these were factors. But it also seems likely that the respondents were candid when they said that institutes have contributed much to teacher effectiveness--acquainting them with different ideas, content, and techniques or teaching.

We found substantial need for pedagogical support for teachers. Many of the good ideas of supplementary centers, intermediate districts, and teacher centers had not caught on--for reasons we did not understand. But there was a need for materials, for organizational assistance, for relief, and occasionally for help in understanding individual students. There continued to be a very good feeling about the NSF teacher training institutes, and many teachers and administrators told us the "course content" institutes should be extended to the many teachers who ahve not had a chance to benefit from them. Institutes based on the use of expensive materials or new departures for teachers weren't in high demand partly because local funds and innovativeness have ebbed. As a group the teachers we became acquainted with in these studies wanted to extend their continuing professional education. Many felt that additional ways for teachers to share experience and problems needed to be found.

Technology. National concerns about education were not often given focus in the CSSE classrooms, but instructional arrangements made at state and district levels did reflect some national issues. In response to poor student performance on tests, to other embarrassments such as nationally publicized lawsuits brought by nonreading graduates, to a belief that technology can improve the efficiency of instruction, and to a perceived need for more control over the whole teaching-learning system, a nationwide effort has been undertaken to make teaching more explicit, more rational and to make learning more uniform and more measurable. Technology as we saw it did not necessarily mean mechanical or automated devices, but any effort to routinize or standardize procedures either for students or teachers. Thus flash cards, workbooks, and formal plans were as much instruments of technology as computerized math lab and automated reading lab learning systems (p 11:34).

The effort towards systematization appeared to have some effect on what teachers talked about, and some even on what they did. Many teachers appeared to be convinced that teaching and learning should be more efficient. They seemed to prefer efficiency gained by increased teacher control while the districts seemed to prefer gaining efficiency by explication and simplification of what was to be learned. For the most part teachers we saw cooperated with district efforts to improve efficiency through procedural technolization.

In the eleven sites we found teachers using highly routinized instructional procedures, i.e., a technology of teaching. They were structured by specification, hierarchial order, strict time allotments, and the like. They stood in contrast to the more spontaneous and responsive behavior of the Mr. Chips kind of teacher. The highly structured textbook science class in ARCHIPOLIS (p 9:7ff) was a good example of this instructional technology.

We found teachers and other school people largely agreed on the importance of an orderly classroom, objectification of the syllabus, and a strict concern for teacher-time costs, as demonstrated in Scenario W (p 18:44). Our results showed that about half the principals and teachers surveyed agreed with using workbooks, worksheets, and textbooks to keep pupils busy and productive--and our observations and interviews put the support even higher.

This somewhat "industrial" concept of in-class management seemed common. Teachers prepared their schedules to allow for introduction of new material, discussion, problem solving, homework review, etc. A further example of time management was the development and use of prepackaged individualized learning systems.

Whether the curriculum was to be technologized commercially or locally, the first step was usually to obtain widely-acceptable statements of school objectives, reducing the number of paramount things to be accomplished, diminishing the differences to be noted between classrooms and between classmates, and drawing community attention to those school purposes that all agreed upon. The second step was usually to identify criterion performance items, with or without tests, but visible outcomes appropriate for assessing student accomplishment of the objectives. It was presumed that lack of accomplishment would require additional study or that teachers would know how to modify instruction. This remedial part was not as highly technologized, except in certain "individualized" systems such as IPI (which we encountered in ALTE, p 2:14) and Project PLAN (FALL RIVER, p 2:20).

Highly technologized individualized-learning systems like IPI and Project PLAN were being used more as supplemental than central to a district program. (See Chapter 13 section on molecularization and sequencing, p 13:43). Teachers using them some places altered the system of individualized instruction by choosing their own objectives and materials to flesh out the pre-packaged system--for instance in RIVER ACRES (p 1:51). In BRT (p 4:31) though, a contract system was used in which the student and the teacher negotiated the conditions necessary to earn various grades. Although the idea of individualized instruction is that the student can find his/her own way through the system or contract, the RIVER ACRES case demonstrated that accommodation to the demands and requirements of each student's learning was not always smoothly accomplished (p 1:51):

> *If my student is absent when the first cassette in a series is in the room, it is quite likely he will never hear the cassette. If the second cassette builds upon the first cassette, too bad.*

Structured programs aimed at efficiency, uniformity and measurability were not welcomed by all teachers as contributions to learning or to maintaining order in the classroom. In FALL RIVER (p 2:9) one noted:

> *I always thought that the main goal of education was teaching kids; now I find out that the main goal is management.*

The intention of learning systems was to bring efficiency and organization into the classroom. But the systems often proved to be unexpectedly demanding both in the amount of time required to develop or enact the systems and in the time required for subsequent bookkeeping (see p 15:12). Observer Terry Denny commented on the time requirements of these systems in RIVER ACRES (p 1:52) as did observer Mary Lee Smith in FALL RIVER (p 2:3).

Despite these very real concerns with systemized instruction, administrators at many of our sites spoke highly of their technological efforts. Many teachers spoke highly of the increased manageability of instruction through objectification but objected to instructional time diminished by the amount of testing and were apprehensive about what might be done outside the classroom with the test scores. In districts where objectives were formalized and tests were required the teachers

were less enthusiastic, but many continued to appreciate the order and assurance that such systems brought to their teaching. We did not run into any situation or even any "folklore stories of far-off places" where the objectives-based systems had in fact substantially changed the achievement levels of the youngsters.

What has been said in this chapter is that it became clear from some of our case studies, some classroom observations by site visitors, some responses to questionnaires, and from tape recordings of site visitor interviews with teachers, that the responsibilities (for which most teachers felt very strongly) regarding the management of the class and the development of study habits and individual personal character were not to be taught just prior to or independent of the subject matter. They were to be an integral part of all the reading. These responsibilities were seen to limit strongly the conceptions of science, the methods of instruction and the materials of instruction. Teachers used the curriculum material selected for academic goals for the socialization of pupils instead, and for developing individual attitudes of responsibility expected by teachers in the next grade. In their "pastoral care" or socialization role, teachers represented adult society "shaping up" youth.

Since there were strong societal, institutional, and professional expectations that subject matter be covered, it was to teachers a matter of efficiency to use the subject matter in part to accomplish socialization goals. But teachers had to develop their techniques for these uses of subject matter largely on their own or with the help of other teachers in the same school, because neither preservice nor inservice teacher education programs provided much help. Some found assistance in technology for their difficult socialization and intellectual goals and most searched for more help from wherever it might come.

Chapter 17

THE SCHOOL AND THE COMMUNITY

The management of social institutions in technologically-sophisticated societies is a most complex and difficult task. Educational institutions are no exception. Our case studies dealt predominantly with formal education in science, mathematics and social studies--but seldom were matters far removed from the problems of managing the school system.

What our eleven school systems had in common, though varying in size and kind, was a large number of people organized into a social unit, a unit established for the explicit purpose of achieving one primary goal: educating youth. Because schools have been formally organized, not just the product of random pressures, they are expected by policy-makers and the man on the street to have been consciously planned and fitted with programs to guide the instruction of pupils.

The planning is ever imperfect. Management--school administration--always has the problems of staff selection and retention, maintenance of the physical plant, financing, organization and reorganization, programming, and student enrollment. It faces the task of satisfying many groups of people--people who have different ideas about the proper and improper goals of public education. We see these goals, the stated and the unstated, reflecting the ideas and influence of teachers, boards of education, parents, businessmen, professors of education, advocacy groups, religious groups, athletic groups, aesthetic groups, and of course, funding agencies such as the state and federal government. And management has its separate goals too. It is a strong political context in which we find the schools. Congressman Richard Bolling recognized it:

> *I would hope that all of you who are disillusioned by the political process, who think you can escape the political process, would recognize that the framework of the society within which you work and plan is based on the political process.**

But there are two very large and surprisingly separate political processes. There is a local political-social reality of the school. There is also a national political-social reality of the schools altogether.

The school of the local community is one thing. The schools of the nation are something else. Somehow, the aggregate of all the local schools is just not what "our national school system" is.

It is partly of course that our schools are not only the creation and vital organ of the local community, but also of outside agencies and interests, governments, suppliers,

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*Richard Bolling, Address presented at Research Utilization Conference, Kansas City, Missouri, October 7-9, 1968, in Preliminary Report of a Research Utilization Conference (Kansas City, Missouri: Institute for Community Studies, February 1969), p. 26.

real estate interests, etc. But there is a more important distinction between this whole and the sum of its local parts. The people see the local school through the medium of personal contact, direct and indirect. They see the national educational system almost entirely through the news and entertainment media. And the two percepts are different in content as well as scope.

It is not unusual to find citizens and teachers thinking of the local schools in terms of taxes, rowdy behavior, sports, and the like. Taxes continue to increase, some bond referenda are voted down at the polls. Some of the new programs in the schools look pretty good, though it seems extravagant to put carpeting on the floors. Many of the youngsters continue to go off to some of the best universities. There is that one school bus they had to put a policeman on. It is sometimes black against white. But the football team has both blacks and whites on it, and they work together pretty well. Such are typical thoughts about the local schools.

And to the extent that they think about the national school system, (which seems not to be very much) they think of what is said in the newspapers and on television, that the U. S. Supreme Court is going to decide whether or not it is all right for less qualified black kids to go to medical school when more qualified white kids are being turned down; that the test scores have been going down for several years; that youngsters who cannot read but who graduated from high school are suing the school for not teaching them to read; that the courts are making the schools use busing to integrate the schools even though almost everyone is against forced busing.

No matter how you add up the local teaching and learning situations, the concerns and accomplishments of youngsters and their teachers, they neither provide the assessment of education we have come to expect from the news media nor face up to the problems that national critics have vividly revealed. Planners of national education programs should be knowledgeable about both realities, the local and the national.

As has been pointed out in eleven case studies and all the preceding assimilation chapters, the teacher in the local school has his/her mind on local problems. We look next at staffing, management, and community relations--conditions that shape each local school's science, math and social studies programs.

STAFFING THE SCHOOLS

In most of our case study sites grade school enrollments were dropping and high school enrollments were starting what is expected to be at least a ten-year drop. In most of these districts the size of the teaching staff has dropped, but to a lesser extent. Attrition of teachers and other staff due to retirement, withdrawal, and promotion has resulted in replacement by transfers within the system more than by new hirings.

There is no typical situation, however. Two CSSE districts were vigorously recruiting new personnel. Another, one of our largest school sites,hired only two new teachers during the year of our observations. The principal of still another school said she could not keep qualified mathematics instructors because the local technical industries paid them so much more.

One school was keeping its enrollment relatively constant by admitting more students from other subdistricts within the city. Some students transfer in because of the

facilities there for physically handicapped students. Another school was finding students transferring back to the public schools from the white academies since parents now see racial integration as less abhorrent than they did a few years ago.

Each place has its own circumstances, but by and large, enrollments in most places are going down and will continue to go down. It affects what the districts do, what the teachers do, and what the curriculum is. Wayne Welch, our field observer at the URBANVILLE site, observed:

> The average age of the faculty continues to rise and no new teachers (those entering directly from college) are added to the faculty.

An older, more experienced, less mobile teaching force is not necessarily a problem. But these circumstances narrow the options a district has for deciding what kind of a teaching force it wants. And the unions are at work to limit them further.

Protecting Jobs. It is reasonable to suppose that the number of teachers will be a function of the number of children there are to teach--unless you are one of today's teachers. The teacher works hard, and expects to be rewarded with job security. The teacher thinks, "At last enrollments have dropped to twenty-eight per room. It's still too many to teach in one room. How can they talk about laying off teachers?"

The administrators of the schools see enrollments going down and, with state financial support based on an enrollment formula, they look for a way to trim school costs. With over sixty per cent of total current expenditures* committed to instructional staff** salaries, many do talk about laying off teachers. Declining enrollments are less common in Sun Belt cities and some rural districts. And over half the superintendents responding to our questionnaire said they had not recently had budgets cut; but holding down costs and expecting fewer state funds were common and serious topics of conversation in the schools we observed.

The American Federation of Teachers and the National Education Association have helped teachers increase salaries, for example, from a national average of $7,423 in 1967-68 to $10,114 in 1972-73*** and more since 1973. But they have not in the last decade kept up with wage levels of other public employees such as firemen and policemen**** or the average wages of the American craft union workers.

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*National Center for Education Statistics, Statistics of Local Public School Systems Finance, 1969-70, p. 16.

**Professional instructional staff is defined as teachers, principals, assistant principals, supervisors of instruction, guidance and psychological staff, librarians and audio-visual staff.

***National Center for Education Statistics, Digest of Education Statistics (1973), Table 57.

****For 1972-73, firemen's minimum salaries averaged $9,515 and policemen's minimum $9,963; average maximum salaries were $11,604 and $12,330, respectively. Minimum scheduled salaries for teachers with bachelor's degrees averaged $7,357 for the 1972-73 school year, and maximum scheduled salaries for teachers with a doctorate averaged $14,562. In the five-year period since 1968, the annual rate of increase for policemen's and firemen's minimum salaries was 7.4%, while maximum salaries rose (footnote continued on next page)

Important also to the teacher has been the effectiveness of the unions in protecting teaching jobs. Just ten years ago in most communities a teacher's contract was negotiated on an individual basis. The board had to show little cause for not continuing the employment. Legally speaking, few teachers have tenure today, but the grounds for dismissing a teacher are few and difficult to prove.

As a result of union action, many districts have strong seniority clauses in teacher contracts. The protection is likely to increase as additional states pass compulsory arbitration laws. City schools in URBANVILLE opened late in 1976 because of a strike brought by teachers. One point of contention was a seniority matter, with the union demanding more systematic and coherent procedures when teachers were to be "not rehired." When the strike was settled the union had won more complete dependence on seniority. No value judgment was to be made as to who should and should not be fired.

In our URBANVILLE site it was apparent that the old teachers stay and the new teachers go. Even if the new teachers were to be especially good at any recent thrust of the school, such as the teaching of reading or an emphasis on applied mathematics in such a district--one whose budget requires a reduction in teaching force--the new teachers are the ones who will be told in April that their contracts will not be renewed.

At our URBANVILLE site and elsewhere the school system holds diminishing control over probably the most important determinant of good learning--the teaching positions.

The Urge Not to Change. Of course there still is some turnover. When September 1978 arrives, about five per cent of the 1977-78 staff at a typical school will be gone--promoted, retired, transferred--for some reason leaving a vacancy. Each department, each administrator, has an idea of what kind of person could best fit. Chances are, in most districts, it will have to be a transfer from an overstaffed school or department.

An unprecedented number of certified teachers seek employment. The proportion of education graduates obtaining teaching jobs dropped from seventy-four per cent in 1962 to forty-eight per cent in 1974.* New York City found many in the unemployed teaching pool unwilling to take unexpectedly offered teaching assignments, but the security of the positions offered was low. Some say it should be a time of opportunity for school systems to upgrade their faculties. Clearly there are more capable teachers available to replace the "least effective" ten per cent of any district's classroom teachers.

We did not become aware of an effort at any of our sites to identify the least effective teachers and replace them. Lou Smith described the situation (see p 3:84) in ALTE, our suburban site in the Midwest. He left little doubt that there is fairly general agreement about which of the teachers have "gone stale." The problem, many agreed, is not one of identifying those who are not "strong teachers," but a mechanism for replacing or revitalizing the less effective.

(footnote continued from previous page) at an annual rate of 8.2%. Since the 1967-68 school year, teachers' minimum scheduled salaries increased annually by 5.5% and maximum salaries by 5.8%. Negotiation Research Digest (April 1974), p. 15.

*R. B. Freeman, "Investment in Human Capital and Knowledge" in Capital for Productivity and Jobs, ed. Eli Shapiro and William White (Englewood Cliffs, N.J.: Prentice Hall, 1977) p. 105.

But that too is an oversimplification of the problem. There are many definitions of effectiveness in teaching. And most people will not consider "instructional effectiveness" as a criterion until other qualifications have been met.* It was obvious in each of our sites that the school systems try to hire the "best qualified" candidate from that subpool of applicants who clearly fit into the existing dominant value system of the community. Often, acquaintance with the community is considered an asset for an applying teacher. In one of our sites there was a resentment against a black teacher recently transferred to a predominantly white school, not because he did not know how to teach science, but because he "did not seem to know how to work with youngsters, not, at least, with the kind of youngsters they had at this school."

The main reason teachers are not released if they can be protected is the institutional ethic. If any one is threatened then all are threatened. A sense of loyalty is highly desired, and rating some teachers as more effective than others runs counter to that loyalty. Some parents try to challenge that institutional ethic, but seldom successfully. Three parents in URBANVILLE were talking to the interviewer. One said that weeding out bad teachers did not work

> *because somebody knows somebody, or somebody's scared to do something and no one takes any action. They're afraid of repercussions. . . . I've worked very hard to bring to their attention certain discrepancies in a teacher's attitude and treatment of children--and got nowhere. I was told that the principal had to support his teachers even though he knew I was right.*

Another said:

> *It's impossible to fire anyone.*

And the third replied:

> *I don't want to fire these teachers. I just want them to shape up.*

But in most places the teachers do closely fit the neighborhood majority group's image of what a teacher should be professionally. The large criticisms come from an occasional minority or from those talking about the distant mass of teachers. Boston University's Education Dean Robert Dentler asked:

> *What can people do? We're in a situation where, on many fronts, courts are becoming the last resort for parents and their complaints.***

There is little enthusiasm for affirmative action, except among those groups who would themselves benefit. Almost everyone wants to give the job to "one of our kind." In rural places a board member sometimes sees the job opening as a chance to employ a needy acquaintance, the wife of a friend perhaps, or a relative. Even though a typical, elaborate testing and interviewing procedure was used to screen applicants in our Pennsylvania and Alabama sites, we found the ties of kith and kin throughout the systems.

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*Even then it is recognized that effectiveness in instruction is not a uni-dimensional trait. Ineffectiveness is evidenced by poor performance in one or more of the many responsibilities of an instructor.

**Newsweek, 12 September 1977, p. 70.

Alan Peshkin, our Illinois field observer, once reported (in a case study of another rural site, in press) why a broadly-experienced aggressive young man was passed over as candidate for that district's school superintendent. One board member acknowledged that the other, the successful, candidate had less of a record, adding: "But he's country!"

We saw the same phenomenon in Texas, Alabama, Illinois, and California. In each case the strong teachers were described as being "right" for their school and communities. To many people at our affluent midwest suburb--with its bright, upper middle class children--"right" meant something like "proven ability to provide mental and physical discipline and to produce hard-working students without shouting, paddling, or squelching curiosity." Such criteria have been at work for a long time. Except in a corner or two of the community there is little yearning for change in criteria. The new teacher usually will not be different from the old.

Enrollments decline, and it might be expected that fewer teachers would be needed to "do the job." But the regular teachers have tenure--legally or by custom. There is little turnover because teachers do not see good prospects for alternative employment in or out of education. With schools closing rather than newly building, with teachers hanging onto their jobs, with more and more issues subjected to contract negotiation, an administrator or education official desiring to bring new blood into teaching finds distressingly few positions to fill. According to the dynamics we observed in nine of eleven sites, the teacher situation is "a constant." The future in a Sun Belt boom-town such as RIVER ACRES, Texas, is less apparent. Elsewhere, the teachers a citizen sees in school today are pretty much the teachers who will be teaching there in 1985.

MANAGEMENT

According to administrators the problems of the schools are basically not curricular or pedagogical. We heard in URBANVILLE:

> The big issues here are teacher displacement (the teachers don't know whether they're going to be back next year or where), declining enrollments, and corresponding reduction of staff. Desegregation has been a problem, and probably will be even more. Increasing numbers of demands placed upon the schools, e.g., special education classes, desegregation, trying to solve discipline problems. . . .

As they saw it, if students are not learning science and math it is largely because outside pressures and inside disrespect for authority prevent the schools from operating according to design.

Until the most recent years school managers have been expected to design school operations to be more flexible, to accommodate a more heterogeneous group of students and a more varied curricular program. As public concerns about the cost of running schools and about the low performance scores of students have increased, the managers have faced (and raised) increasing demands for "accountability." This appears to be, in Pentagonese, a "no-win" situation. To concentrate on bringing up minimum scores will alienate the middle and fast learning students, and probably bring down the test averages. To concentrate on the average student, as they have in the past, will provoke both the fast and slow students, and the "study ethic" of the school will further deteriorate.

There probably is no way, in this permissive culture, with the increasing requirement for heterogeneous grouping for instruction, that the managers and teachers can get

tomorrow's students to perform up to yesterday's standards. Yet management is expected to try and they do try. They find it difficult to tell us of the impossibility of our expectations or the expectations raised by advocates of new programs. The lesson is clear. Few who do try to tell us to be realistic about what schools can do are still in top positions.

School management in this country sees public approval and financial support as imperative to the smooth running of the schools. Financial aid, program changes and additions, and reorganization all require extensive cooperation within the school and monitoring of community toleration on the outside. In order to meet these demands, interesting and worthwhile ideas in their own right such as outdoor education, photo studies or music are touted as solutions to existing problems. And promises are made that are probably impossible to fulfill. For instance,

> The superintendent of a major midwestern city, eyeing a large unexpected budget surplus, promised his board that if he could spend it on special instructional centers, he would bring the test scores back up where they had been several years before. (R. Stake's notes.)

Due to consolidation and population growth, school districts are larger than twenty years ago. They handle more pupils (although fewer than in 1971), more personnel, and more money. As expressed in the RIVER ACRES report the larger the system gets, the greater the "felt need" to manage. In some cases the school system budget is larger than any industrial budget in the community. The expectation for technical management expertise is great.

Technical Specialists. Increasingly, the educational administrators of the past have been succeeded by management specialists, a new breed of technical people. They may hold doctorates of philosophy but they are not philosophers. It may be a change for the better. The technical demands on managers are most real. There seems little disagreement among people that we should have well-trained technical people running our schools. Nothing in our experience in eleven districts suggests that philosophers could run today's schools better.

Many citizens do not see a substantial difference between running a school and running a factory. The learning factory metaphor suggests technical expertise as a solution to many demands. Most administrators seemed to accept and use this metaphor. Technology was repeatedly put forth by them as the way to get the most for the taxpayer's dollar. In education, technology can mean the use of equipment in lieu of direct teacher-student contact; it can mean the specifying of behavioral objectives; it can mean promoting a referendum for school financing; it can mean organizing the in-service training program.

We have learned that instructional technology often comes as more costly rather than less. In many schools we visited we found instructional use of television, tape recorders, math labs with electronic machines, hand-held calculators, and even television production equipment. In no place did this mean fewer teachers, less costly instruction. In ALTE and VORTEX it meant a higher adult-youngster ratio, more teacher aides or clerks, but no fewer teachers. It may have resulted in more relevant learning experiences for the students. It did not mean that traditional objectives were being pursued at a lesser cost.

When there actually is the introduction of instructional hardware, e.g., movie projectors, language labs, teaching machines and other technical equipment, specialists are needed to instruct adults and children in their use and care. And they require administrators who understand the importance of experience with technical equipment (not only to

work and preserve this equipment, but because maintenance is a part of general education today). Educational experience with technical equipment is possible and important. Technical equipment is unlikely to be the solution to poor reading scores or budget problems, regardless of what the IBM television commercials say.

But the understanding of what technical instructional equipment can and cannot do is not the sense in which today's school administrators are technicians. Their expertise is the expertise of the bureaucracy. It is used to prepare statements to get federal grants or special allowances from legislatures or city councils. It is used to organize offices to comply with federal and state requirements. One GREATER BOSTON interviewee said:

> *There is all kinds of federal money floating around, but there is a lack of basic and continuing support.*

It is the obligation of the contemporary administrator to see that none of that money floats on past. And to put it where it is needed.*

The coordination of teachers, children, clerks, and support personnel; the supervision of budgets, buses, books and buildings; and the communication with parents, community leaders, and government officials are difficult, demanding and consuming work. As one GREATER BOSTON administrator suggested:

> *A fast moving school isn't run just by humanizing the administration [a popular concept in the '60s].*

But how then should it work? Today's hue and cry is for accountability, for the evaluation of outcomes (usually defined as some measure of student competence), for the balancing of costs and benefits. This same administrator had questions about that also. Observer Mary Lee Smith reported that the writing of behavioral objectives at FALL RIVER was successful, but the implementation was not (see p 2:3). There appeared to be no penalty for setting up an impractical technical system.

We found little evidence that administrators care one way or another about science education. Science education is seldom promoted as a matter of "sound education." Management is the friend of science education when its aims and activities are important

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*One federal research project undertook to find if general financial aid to highly impoverished schools could raise the level of student achievement. In the pilot study the researchers found that school administrators in fifteen pairs of elementary schools were able to divert at least as much funding to the control schools as was provided by the federal government to the experimental schools. (In the subsequent comparisons the federal government allocation was over $500 extra per youngster in the experimental group and the local supporters only came up with $129 extra per youngster in the control group.) We concluded, with at least a glimmer of admiration, that the administrators involved were more concerned about improving the funding for all the children than in researching the effects of special funding on the achievement of those children. The research was reported in: John Coulson, et al. Third Year of Emergency School Aid Act National Evaluation, USOE Contract LEC-0-73-0831, OEC-0-73-6336, SDC-TM-52-36/014/00 (Santa Monica: Systems Development Corporation, March 1977).

to parents, those who want their youngsters to enter engineering schools, medical schools and liberal arts colleges. Or it is important when the dispensing of funds is a national priority as in the post-Sputnik days. Science education is not easily adaptable to the existing problems of community support, financial need or re-establishing a curricular emphasis on the basic skills.

Patterns of Organization. A variety of reorganizations at the district level was found in the case studies. Some were precipitated by judicial decree for the purpose of desegregation (GREATER BOSTON and PINE CITY). Others represent the influence of demographic shifts with declining enrollments (BRT, URBANVILLE, VORTEX) or increasing enrollments with an influx of white middle class northerners into the southwest (RIVER ACRES, FALL RIVER).

Declining enrollments were handled in several ways. The smallest site, in rural Illinois, which had already passed through an earlier phase of consolidation, was anticipating that dropping enrollments--a manifestation of cumulative change in land use--would compel still another consolidation. Or a new form of governing unit, the "Intermediate Educational Unit," might emerge as it has in Pennsylvania, Oregon, and New York. To date, intermediary "districts" have functioned as a support system to local schools, and their role has been to deliver services to schools with limited student enrollments in specialized areas.

Some districts may be anticipating a combination of effects such as declining enrollments and desegregation (COLUMBUS, URBANVILLE, WESTERN CITY) or consolidation by law (ALTE, GREATER BOSTON) to promote desegregation or to equalize taxing revenue. In districts with a rapidly expanding student enrollment reorganization may be found in the form of sections of a district seceding from a larger system (RIVER ACRES).

All of these reorganizations may entail the physical closing of neighborhood schools (or the emotional abandonment of the neighborhood school concept). Talk about school closings antagonizes teachers (anxious about transfers and seniority) and parents (anxious about students sent to strange and distant places and the future of residential and business areas). Of course reorganization also is seen by some as part of the community's power struggles. The struggles might be especially heated if intermediate educational districts are reassigned primary responsibility instead of support responsibility for the implementation of certain laws such as PL 94-142 or where consolidation reduces the number of administrators. Curricular improvement seems quite unlikely during contentious reorganization periods.

But there are other reorganization attempts directly intended to centralize the development, planning or revision of curriculum and/or decentralization of the administrative authority structure. We found this in RIVER ACRES, VORTEX, ALTE and URBANVILLE. We found decentralization of administrative authority in ARCHIPOLIS. Both reorganizations were occurring simultaneously in FALL RIVER. Administrative decentralization efforts in ARCHIPOLIS included the ordering and distribution of supplies and services such as textbooks and lab equipment--as well as the distribution of extra help in the form of teachers with subject matter specialization.

In this particular case the principal and teachers seemed to appreciate the effort toward decentralization regarding decisions and responsibility, but the new system also left unfulfilled certain functions performed by the old.

The organizational structures of the schools were not probed or reported much in these case studies because that was not a primary aim. It was apparent that reorganization efforts in these sites were found to expose priorities and realities that previously had gone unstated and unquestioned. Accountability and formal evaluation systems do the same. Our observations of them will be presented next.

ACCOUNTABILITY AND EVALUATION

For a long time schools have been expected to account for the taxpayer's dollar--in bookkeeping terms. More recently, the critics of the schools and the managers of the schools have called for accountability for the student learnings purchased with those dollars.

While we found only a small amount of talk about accountability at our case study sites, almost nobody questioned the assumption that an accountability system should be pressed upon the schools. No one said, "I wonder if the school people are getting so nervous about their obligations that they are actually doing a poorer job." Or, "We know that in some communities, some students are graduating from high school even though they are not capable of reading and doing arithmetic. Are the teachers responsible for this?" When school personnel in our national survey were asked why such graduations occurred, only ten per cent felt the teachers were incompetent. About thirty-five per cent thought the teachers were too lax. They checked other reasons such as "government regulations, laws, and court rulings are making schools promote unqualified students" (fifty-six per cent) and "the schools just push 'poor learners' through to get rid of them" (sixty-five per cent). The aim of accountability is to curtail such graduations and other forms of poor learning, regardless of who is responsible--but the message of accountability is a message to the teacher to do something.

What does "accountability" offer to a teacher as a concept? One thought is that it may offer more authority to teachers. An URBANVILLE Educational Association president endorsed accountability, claiming it "will become a reality only when and if more professional autonomy is achieved." Another interviewee felt it offered security (site visit report):

> *Without [accountability] we're propagating our own ignorance because we have no consistent structure. And there's great insecurity in having no positive direction.*

Schools, they say, have an obligation to show that students are becoming more competent--but how to go about achieving accountability is not something that any of our schools had demonstrated in other than the old intuitive ways.

Obviously, formal accountability depends on a means for evaluating, for discriminating among programs, teachers and students. Almost all the districts we visited had created "evaluation offices" of some kind. The ones in COLUMBUS and ARCHIPOLIS had credible national reputations. The personnel assigned to perform evaluation duties at several sites confirmed the impression that they were concentrating their monitoring on students more than on teachers and programs. Monitoring of students was found in WESTERN CITY, URBANVILLE, and RIVER ACRES in the form of "minimum competency examinations." Criterion referenced diagnostic tests were conspicuous in ARCHIPOLIS. Pretest and post-tests were in use in the math labs at VORTEX. Standardized achievement tests were administered at all of our sites.

Performance-oriented evaluation can be built into many instructional programs--performance contracting was one brief-lived effort. At the time of our observations we found organized efforts (in the form of teachers writing "behavioral objectives" and curriculum guides) at FALL RIVER, RIVER ACRES, ALTE and ARCHIPOLIS. At times various consultants and publishers had been found to provide checklists on instructional effectiveness of classroom management and record keeping for the evaluation of teachers. We found most schools using something that the teachers had created or borrowed, and modified. In ALTE they had taken a non-quantitative, yet sophisticated approach. In this comfortable suburb evaluation data included supervisory, collegial, and client feedback. (It is nicely described on page 3:77.)

We found no actual evidence of validity of these accountability procedures. But neither the teachers nor technical people at the district were seen to be raising questions about validity. They made sense to some, and few others protested. In most places the autonomy of the classroom was protection for the teacher reluctant to go along.

Criteria. Student achievement testing--albeit an important evaluation technique--is only one way in which people at our sites were attempting to meet the accountability demands. For instance, a teacher in Colorado said:

> *Schools should teach the value system that is consistent with the community.*

The language of accountability systems emphasizes independent, objective criteria, but the interviewees told us of "dependent" criteria, dependent on the reasons the community supports the schools. When telling us of how their schools are or are not living up to expectations, teachers, administrators and parents happened to cite:

--cleanliness and orderliness of the school (BRT, ALTE, RIVER ACRES)

--judicious selection of teaching ideas and materials, "We don't buy everything that comes along." (BRT, RIVER ACRES)

--offering advanced placement courses (BRT, VORTEX, ALTE, URBANVILLE)

--the advanced placement test scores (VORTEX, RIVER ACRES)

--national merit scholars (RIVER ACRES, URBANVILLE)

--a balanced budget, "We educate within our means, facilities, talent and the capacity of the populace to support." (BRT, COLUMBUS)

--the math labs (VORTEX, ARCHIPOLIS)

--homework, not too much and not too little (BRT, RIVER ACRES, ALTE)

--keeping students, especially seniors, working hard (FALL RIVER, RIVER ACRES)

--achievement in science fairs (BRT)

--achievement in music and art (ALTE, GREATER BOSTON)

--environmental education (FALL RIVER, ALTE)

--a full program of courses (ARCHIPOLIS, WESTERN CITY, ALTE)

In four of the places we heard someone say: "If the community is quiet it's a good sign that we are handling things okay."

In GREATER BOSTON we heard: "Program success is relative to what went on before and what would go on without the program." Success was often described as improvement in the atmosphere, climate or attitudes of classes and students. A better atmosphere was said to be indicated by:

--fewer discipline problems or fewer absences (GREATER BOSTON, ARCHIPOLIS, WESTERN CITY)

--fewer children leaving the public for the private schools (PINE CITY, URBANVILLE)

--fewer dropouts (GREATER BOSTON, ARCHIPOLIS)

--accessibility of school administrators (ALTE, BRT, ARCHIPOLIS) but not over supervision (URBANVILLE, FALL RIVER, RIVER ACRES)

--whether or not the kids enjoy the classes (ALTE, RIVER ACRES, GREATER BOSTON)

A rationale for the evaluation of teaching was expressed back in 1968 as researching how "teaching behavior style A is likely to enhance student competence B, in students of Type X, who find themselves in an institutional context of Type Y in a social setting of Type Z."* And many of the school people we talked to did think that way (GREATER BOSTON):

> *I don't want to make any grand claims for the system. I just know at this time, in this school, with these students it works.* (GREATER BOSTON)

But to operationalize this statement is another matter**. Ratings of schools, programs, classroom events, and teaching may correlate with achievement scores, but what to do about low ratings is unclear or may be too painful to consider. It certainly does not mean that school people and community members do not have any idea about what they want when they see it. They do.

> *This is the kind of system we want, the kind of people who should staff it, the kind of teaching, learning that should be going on and these are the ways we're going to achieve it.* (ALTE)

Informal evaluations of school programs have been going on for many years, and continue in much the same way. More and more teacher time was being spent for formal evaluation. Often it was introduced with the claim that it was needed for accountability. When discussing accountability we heard teachers talk about minimum proficiency in math and reading. The topic of science education almost never came up in the same conversation.

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*Betty Humphry, Preface to The Evaluation of Teaching: A Report of the Second Pi Lambda Theta Catena (Washington, D.C.: Pi Lambda Theta, 1967).

**Lee J. Cronbach, "Beyond the Two Disciplines of Scientific Psychology," American Psychologist 30 (1975): 118-127. Also in Evaluation Studies: Review Annual, vol. 1, ed. Gene V Glass (Beverly Hills, California: Sage Publications, 1976).

ADVOCACY, APATHY, AND CRITICISM

A number of reports on the American high school* have been issued in recent years. An excellent summary of them can be found in The Educational Forum dated March 1976. An earlier edition contained an article entitled "The High School as a Marginal Institution." Consternation has been expressed in the professional press as well as the popular press about conditions in the secondary schools, indicating at least among some people a growing fear that it is becoming of marginal value to American youth, and consequently to the larger society.

Few parents and school people we talked to in our eleven sites viewed their high school as a marginal institution. Many saw the public schools somewhat diminished in effectiveness and no longer quite as central to the education and maturation of youngsters, but clearly still the primary institutions for most young people. Criticisms were relatively few partly because children of the majority of families are successful in their young lives, and the schools apparently contribute something to that success. In the majority of the other families it is presumed that what their children need is something that the schools give the more advantaged children but somehow do not give theirs. So rather than wanting the schools to change they want to get their share of whatever it is. There was less criticism at the community level of the schools than one would expect by reading and watching the national news media. Still, there were numerous criticisms and numerous advocacies voiced by teachers and administrators as well as parents and students.

There are a number of factors outside the control of the individual school itself which may have influenced the estrangement of the parents. In PINE CITY, for example, the desegregation rulings and the subsequent flight to the white academies were seen as weakening the community support of the school and the push from home for the student:

> *Parents can influence science in school. But we have very little response from parents here. We don't even have enough parents to have a PTA here. Parents who would be interested send children to academies . . . We have three private schools in town, and a lot is taken away [from the public schools].*

Court-ordered busing, which often carries a child to a school some distance from home, also has the effect of diminishing the involvement of the parent and attenuating the sense of community, with resulting effects on the teacher in the classroom.

In our visits to eleven sites we refreshed our awareness that parents of low and middle class status will mobilize to protect their neighborhood schools--as an anti-integration measure (GREATER BOSTON), for decentralization of urban authority and increase in control for minority groups (ARCHIPOLIS), and just because it is comforting to know that the children are not far from home (GREATER BOSTON, ARCHIPOLIS and everywhere else). Parents will rise up to save athletic programs and to pass or reject bond and tax referenda (URBANVILLE). We know from the newspapers, though not from our visits, that occasionally parents strike down curricula dealing with evolution or the relativity of values.

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*Of course there is no single American high school or school system. They vary in character, in personality, and in behavior as much as the families on any block. They have common problems, common schedules, common accoutrements, but are increasingly different as one comes in close to examine them. So the criticism and the praise for the schools fit no school perfectly, and fit many very poorly.

Occasionally the family institution set out to shape the educational institution, advocating a certain curricula emphasis such as creative writing, advanced placement courses, career education, or advanced courses at an earlier grade level. One teacher in ALTE said, "The parents like to have a lot of science early. So we do a lot of science." But not at the sacrifice to high standards or eligibility to college. "They [the parents] still want to see those grades." In situations such as ALTE the parents see themselves as collaborators both in instruction and gaining community support.

But the only advocacy that spread to all situations, east and west, rich and poor, was the advocacy for a basic curriculum, the emphasis on reading and computation for all grades past kindergarten.

> *I think going back to the basics is a wonderful idea. I come from Ireland . . . and I never saw such poor spellers or such poor readers. When my son was only eight years old, he skipped two grades and graduated from high school at sixteen. I couldn't believe it because he wasn't a bag of brains.*

Some have called this kind of advocacy a form of apathy.

> *If parents have lived with the child all this time without finding out that he cannot read, there is plainly another problem here that has nothing to do with the schools.**

Criticism, apathy, and advocacy are related matters. If community and schools are pursuing a mutually-desired outcome the effort is lauded as cooperation. Intemperate and stubborn citizens who work for these common causes are widely applauded. When citizens are pushing the schools farther or faster than most people want to go then stubbornness and intemperance are seen to be offensive. In this section we have recorded some of the voices that have been raised in support of and in opposition to local science programs--and have noted as well the more common finding of parent apathy about what is taught in the schools.

Parents. Schools sometimes are seen as overly vulnerable to public criticism and parental pressure. We saw evidence of this in ALTE, FALL RIVER, and RIVER ACRES. Sometimes schools have been criticized for not being responsive enough. We saw this in GREATER BOSTON, URBANVILLE and WESTERN CITY. But in each place, of course, the schools were some of both.

There is always a question as to what the proper role for a parent is. According to the formal rhetoric parents are expected to help in setting policy, evaluating curriula, orienting children to their studies, and helping on special occasions. Certainly in most schools, the support of parents is solicited and their help is needed. Parents are often asked to sit on committees setting broad goals for the schools. But almost never are they expected or allowed to play an integral part in the management of problem resolution. The reasons are obvious: too often they do not appreciate the complexity of the situation, too often they press for personal favor, too seldom is there time to engage them, too seldom do the parents care.

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*Dorothy Wilson, Maine Times, 30 September 1977.

In some places we visited the parents were described as apathetic. Teachers and administrators expressed dismay that the parents did not involve themselves in their children's education. These school people sometimes saw the school as a different kind of social service organization, one with expertise in "parenting," instructing parents how to involve themselves in the education of their children. We saw this in GREATER BOSTON, PINE CITY, VORTEX, and WESTERN CITY. Within this definition of parent involvement, encouraging parent action did not usually include encouraging parents to be involved in decision-making that could potentially change the direction of the school.

The pressures for parent involvement usually took the form of how to help a child with homework and encouragement for regular attendance. Parents were encouraged to attend parent-teacher conferences. A parent explained the high-need/low-success of such efforts in ARCHIPOLIS this way:

> *Many parents did not help the teacher or talk to their children about schoolwork because they were ashamed to reveal how little education they had.*

Obviously, there would be other reasons for the appearance of parent apathy, and indeed what appeared to the teacher as apathy may be something quite different.

Our field observer in ARCHIPOLIS examined the condition carefully and in one instance said:

> The greatest concern expressed by parents centered on their efforts to correct problems perceived or observed in schools. The "Catch 22" quality surrounding every attempt to get things changed made them feel powerless against the system and ineffective as one of the partners in the schools' efforts.

Teachers in many of the CSSE sites spoke wistfully or even bitterly of lack of support from the home. They saw it creating a sense of isolation which had negative effects on educational achievement. In the PINE CITY site visit, a general science teacher, talking about a particular group of students, said:

> *These children do not have the push from home that my better students have had. You can tell--if the parents are concerned, the kids are going to be working.*

The parental pressure that is observed (we heard in the same discussion) is not directed to science:

> *I get the impression that most of the parents are concerned with the basics. . . . If a child gets a "needs improvement in reading" compared to a "needs improvement in science," they're much more concerned.*

However, some reported parent apathy even as to reading. At BRT we heard:

> *One of the biggest problems with reading is parents don't have time to listen to their children read.*

They complained too that parents don't read to their children. It was attributed at least partly to the impact of TV. From a PINE CITY math teacher we heard:

> *You're going to find that a vast majority of our parents cannot even tell you who their students' teachers are or what subjects they're taking. I imagine that 75% of our report cards never go*

home. They're signed by the students themselves. . . . The parents are caught up in a financial situation and social situation, and it's a dog-eat-dog world out there and they're just not spending as much time with their children as they should.

Some parents agreed that parents as a group were negligent as to their child's education:

The little ones need to be helped with their flash cards. A lot of parents won't take the time.

We blame the teacher that our child isn't getting this, but we won't say, "how much is 3 times 1?".

I don't feel the schools can do everything--it's just too big . . . there are so many things the schools can't teach. I feel like the big breakdown is parents.

We heard dissenting opinions too. The math chairman at the same site said:

In many of the homes, there's a strong emphasis on learning.

It's important to note, however, that this same person earlier had been talking about a loss of academic perspectives, non-motivated students, and students in algebra who shouldn't be there. He also took a negative stance on social promotion. In fact, this comment on the family emphasis on learning was the one bright spot in his otherwise dismal scene--and in fact is a bit difficult to reconcile with those facts. The social studies teacher at BRT also spoke about community pride in the school (see BRT, p 4:29 and p 4:41).

Some teachers felt there was not only a clear abdication of parental responsibilities but also an attempt to shift these responsibilities to the school. During the URBANVILLE site visit we were told:

In the years I've been teaching, it seems to me that more and more through the years the schools are expected to do a lot of things that parents should be doing. The parents will come to school and say, "Well, I can't make him do this. Good luck." Like do his homework or read a book. . . . I think it's a mistake to expect that we can solve all the problems a child has while even solving his academic ones. . . . Parents have to assume more responsibility for the education of their child. . . . There has to be more involvement.

Some at BRT took a philosophical view of all of this:

There's nothing you can really do about the home, so you have to make the atmosphere in the school. . . . You have to make up any lack [that occurs in the home]. (p 4:43)

Estrangement and Indignation. Why have the parents not been more vocal than they have in influencing the local curriculum? We did not directly pursue this question, but encountered various suggestions. In two of our sites we scheduled open hearings at which people could come and express themselves. No parents or out-of-school people came. We arranged to talk to other parent groups and asked why no one came. They guessed that no one expected that it would do any good.

The ARCHIPOLIS teachers were having trouble getting parent chaperones to accompany field trips. One parent speculated that parents there were reluctant to reveal how little they knew about things. Teachers had trouble getting those parents to help with homework too. Several teachers commented that this situation had become worse with lessons that are different from those the parents had in school.

Changes in the curriculum as well as changes in the disciplines themselves seem to have made some parents feel incompetent to help the child at home:

> *With this new math, I don't help my children out from the seventh grade on up and I think a lot of parents feel that way. They just don't understand; it's not what they learned. The wording of it, more than the math, is different.*

This is probably not a trivial effect. In the past, when children had problems with specific subject areas in school, the parent could often explain it in a way that made it clear. By not having this backup system (the parents) available, the schools have lost a valuable source of support in this one subject area, at least, and children who might have gotten certain concepts with a bit of additional help from their parents do not. Furthermore, this has no doubt fed into the disinterest and alienation that many parents seem to feel vis-a-vis the school system.* At one of the site visit meetings in RIVER ACRES, a parent speaking about math said, "I'll leave it to the teacher," and was greeted with a round of sympathetic laughter.

A factor that <u>is</u> controlled to some extent by the individual school is <u>homework</u>. If it is not given, one of the major means the parent has of monitoring what goes on in the school is removed. One RIVER ACRES teacher recognized the parents' insistence on monitoring (p 1:51):

> *The eighth-grade text does not meet the needs of anybody. It is about college level. The society in which we teach dictates the use of a textbook, however, so, even thought I don't use it in class, I send it home every now and then to keep my parents at bay.*

However, the following quote also from RIVER ACRES makes it clear that the relationship between assigning homework and maintaining some degree of parental support is not necessarily a direct or simple one (p 1:14):

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*The Carnegie Council on Children Report contended that schools and other social institutions function in such a way as to make it very difficult for families to <u>cope</u> with them let alone <u>support</u> them. See Kenneth Kenniston, <u>All Our Children: The American Family Under Pressure</u>, The Carnegie Council on Children (New York: Harcourt, Brace and Jovanovich, 1977).

> *Homework that is busy work is trash. Teachers wonder why I don't ask my children to finish it. I don't think it is worth doing, that is why. . . . I don't want to minimize the problem. I just hate not supporting homework. . . . but when it comes down to a silly geography cut-and-paste-the-rivers project and attending the Houston symphony my daughter will go to school humming Chopin the next morning.**

This statement is an interesting one. It shows not just lack of support, but a clear overriding of the prerogative of the school to assign homework. The parent apparently felt competent to make decisions about what scholastic activities are, and are not, instructionally worthwhile for her child. Furthermore, she may be providing her daughter with a model for interacting with the school. It supports the view that the growing distance from parents that many teachers feel is a complex phenomenon, and one that will not easily be resolved.

The BRT superintendent touched several possible explanations when he discussed homework:

> *I looked at the amount of homework that students take home today versus when I was in high school--and they don't have homework like we did. The teachers for one thing, don't believe in it as much, at these smallish schools. . . . Parents really object to homework and the teachers say that a lot of the students won't do anymore. I feel this is a little alarming, in a way.*

To what extent the proximity of the home and school as well as changes in curricula, the disciplines themselves and the assigning of homework, are causes of the schism which seems to exist between many parents and the teacher in the classroom, and to what extent they are simply indications of a deeper disenchantment with both education generally and the work ethic, we cannot say. There is certainly evidence in the case studies and from the site visits that both are involved.

New names for subject matter or courses and the "alphabet soup" of PSSC, Title IX, and 94-142 further weaken the self-confidence of some parents. Terry Denny reported that one Texas parent who avowed she could not help her child with language arts was surprised to find that it was just another name for spelling, grammar, and reading (p 1:23). At another level, an Illinois science teacher proposed a science course for adults to get them to the level of their children:

> *I'd like to be able to teach adult science education. So much has changed since the parents of today's kids got out of school that their kids probably know more about science than they do.*

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*The reader is urged to consider the full quote in the RIVER ACRES case study, (p 1:14).

Even in a "progressive" district such as ALTE the parents resent some efforts to change the schools. A principal said:

> *Parents are committed to graded education. You can change anything else--space, curriculum--but not ungraded or a mix of grades. We tried that ten years ago. . . . We had a big room of second and third graders and for years afterward everything was blamed on the "big room."*

The reader of all eleven CSSE case studies will not draw the conclusion that 1976-77 was the year of parent indignation. Rather, each site had its stories of years past, when parents rose up to oppose the "big room" or the closing of a school. Four years ago white middle-class parents removed their children from the newly integrated public schools in PINE CITY and only now are starting to return. In FALL RIVER parents invaded classrooms to see what was going on when a new instructional method called PLAN was introduced--it has since been reduced in scope and parents have been permitted to opt their children out.

Most of the parent criticism is general. A young parent said:

> *I don't think kids are always taught how to learn. . . . When I went to (the) state university, I found out I didn't know how to study. I had absolutely no concept of how to study. I had never done it, I had never needed to do it, I had never been pressured into doing it.**

Valuing Science Education. From our interviews we found the parents interested in talking about the curriculum in-the-large and seldom with much to say about specific courses. Most thought that science education was important, especially for the college-bound. For the rest of the children it was important too but not much time should be spent on science if reading or computation skills needed working on.

We were perplexed by this. We wondered if school leaders really did not see science and science education as being important. We asked a random sample of school superintendents across the country the following question:

> For many students the science goal "understanding the world in which we live" seems remote and impractical. Students now enroll in few science courses unless required to. Less science is being taught now than in earlier years. Do you think this national trend will have serious negative effect on . . .

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*It was clear how teachers respond to such criticism, whether or not it applies to them. In part, it drives them to stick ridigly to textbooks and syllabi, in part it drives them to freeze the curriculum in ways reminiscent of Benjamin's Sabre-Toothed Curriculum, a satire depicting cavemen who taught techniques for thwarting sabre-toothed tigers long after they had become extinct.

	said "yes"	said "no"	said "don't know"
... the growth of technology in our society	74%	20%	6%
... the economy of our country in years ahead	71%	19%	10%
... military preparedness in this country	57%	33%	10%
... the "quality of life" in this country	79%	15%	6%

(Of 150 superintendents sampled only 74 responded; one of these omitted this entire item and another omitted the last two parts. The percents above are based on those superintendents who responded to that part of the item. Standard errors are in Chapter 18. Results have been weighted according to RTI sampling plan.)

When we asked, "Should the schools try to do something to reverse the trend away from science?"

59 superintendents checked "yes"
9 superintendents checked "no"
and 6 superintendents checked "don't know."

Noting that only half of the superintendents responded and reminding ourselves that there are many more small districts than large, we concluded that the superintendents of most of the school districts do feel that the trend away from science education will have a serious negative effect on the well-being of our country, and that the schools should try to reverse the trend.

With such a strong inclination to see the deterioration of science education as a serious national problem, one would wonder why they do not speak out in their districts more for science education. In not one of our CSSE districts was the superintendent known to be an advocate of science education more than something else. The problem is that superintendnets as well as the rest of the school people have largely accepted the position that students cannot learn science until they have shown proficiencies in reading and math.

This struck us as equivalent to putting a low priority on science. It seemed obvious to us that most children would never master reading and computation to the satisfaction of a science teacher who had such prerequisites. It seemed that the only way to teach most children science is to begin teaching them before kindergarten and during every grade, along with reading and computation, relying on those skills possible, but not waiting on them.

Some teachers and administrators do see it that way. The national survey data presented in Chapter 14 show a clear division between teachers who believe that the concepts and complexities of science should be taught from the outset versus those who would teach skills first then the complex subject matter.

Another issue that had strong implications for the science curriculum was the interest people had in vocational education versus liberal arts education. Many parents wished that the schools would be more concerned about getting students ready for vocational responsibilities, and many school people agreed. Naturally, most of them did not

see an obvious role for science courses when the task was getting non-college-bound Johnny ready for the job market. Yet 2/3 of our parents and teachers felt that some proficiency in science should be a requirement for high school graduation. Another perplexing situation. Of course, it is easy to say that children ought to be required to learn everything that was, is now, or ever has been in the school curriculum.

Results from survey questions on the importance of a vocational orientation in American schools are presented in Chapters 12 and 18. By and large, parents saw the responsibility for vocational preparation as more important than school people did. But few appeared ready to sacrifice any of the scholastic program in order to get youngsters more ready for jobs. They seemed not to see it as a trade-off. The more important different tracks and different programs they expected to be continued. They seemed to feel that the ideal program would graduate every boy and girl fully prepared in the learning skills, knowledgable in the traditional subject matters, eligible for college, and ready to take a full-time job.

From other questioning it was apparent that administrators and parents were concerned about youth unemployment and the hollowness of the admonition that "if you don't do your schoolwork you are not going to be able to find a good job." But there did not appear to be a strong feeling that the schools can do much about making the courses more vocational. Here again the belief was that work on the basic skills is most likely to be of value to the employment-seeking youth.

The schools, as agents for socializing children in the values, myths and ethics of the dominant culture of their own communities, are also expected to produce change in preparation for the unknown future. Each community struggles with it. Parents and teachers alike fear they might be subverted by reform, be it integration (PINE CITY, GREATER BOSTON), open space instructional settings (VORTEX, RIVER ACRES), ungradedness (ALTE), or innovative curriculum (FALL RIVER, WESTERN CITY).

Preparation for the future is more often thought of as the working career, not of the future social order (PINE CITY, FALL RIVER). Perhaps there are enough other institutions worrying about the future social order. That future our parents seemed not to concern themselves with. The expectation that the schools prepare children for their future work does not always include the need for having the latest teaching techniques or special programs, certainly not giving up discipline, hard work, stress on the basic skills, or achievement in the traditional form of test scores. As one well-educated black parent said:

> *One cannot honestly and realistically conclude that science teaching is occurring at (this school) if one expects most students to be prepared to deal with science at a level of expectation that is functional now and in the future. However, if one feels that the personal involvement and choices of students is more critical to the life chances of these children, (this) way might be the way to go. I would not want the experience for my children for I cannot afford the risk.*

To get an overall, most general feeling as to how good (or how bad) people in and around the schools perceived their curricular programs to be, we asked the following question in our survey:

> Even though it cannot really be summed up in a word, what do you feel is the overall quality of the high school science program?
>
> ___ excellent ___very good ___satisfactory ___poor ___other

We asked the same question regarding the high school math program and the high school social studies program in the district. The median responses were as follows:

	Science	Math	Soc St
Parents	Satisfactory	Satisfactory	Satisfactory
Seniors	Satisfactory	Very Good	Very Good
Teachers	Very Good	Very Good	Very Good*
Coordinators	Very Good	Very Good	Very Good
Administrators	Very Good	Very Good	Satisfactory

*but close to satisfactory

Very few of the respondents used any category other than satisfactory or very good to describe the curricular programs. Even though most people were able to tell interviewers or to describe on the survey forms some shortcomings of the courses, their overall summary of the high school programs was that it was at least satisfactory.

SCHOOLS AND CHANGE

Paradoxically, schools are the agents of change and the deterrents to change. The communities we visited are troubled in many ways, would like relief from their troubles, and occasionally see the schools as a potential contributor to the relief. Different people see different troubles, so there is no universal mandate. What one person would like to have changed would upset another. The remedy that one person has in mind would further upset another. Few people in the schools we visited are interested in creating a new society. Most spoke in support of returning to a better day, how it was, or perhaps how it seemed to be.

Social Change. The society changes the schools and the schools are called upon to change the society. Since World War II two long and trying episodes, the Cold War and the Civil Rights Movement, have greatly increased the federal and direct societal involvement in schooling.* The Cold War set the stage for federal involvement through its demand for technical manpower, a demand that seemed to call for better science and mathematics curricula. The leadership of our society answered the civil rights demands by committing the schools to racial integration and the reduction of poverty through basic and vocational instruction. Schools have recently been used as a major instrument to respond to widely recognized national needs.

The people, including the professional educators, by and large supported Cold War efforts, and were enthusiastic about adding additional courses and ways of teaching to further that cause, and perhaps even to improve education for other purposes too. The people, including the professional educators, were considerably less enthusiastic about the integration of the schools and the responsibility for teaching children unready or reluctant to learn. They turned against the curriculum reform movement when they found it at odds with their purposes and difficult to manage. They came to accept programs for poverty children because the programs brought in federal money, but they were dismayed by the problems accompanying that instruction. We found the people at our sites, in and out of school, not much interested in desegregation and war on poverty, but greatly interested in an emphasis on the basic learnings and concerned about how the schools will pay their bills.

The idea of making the schools the instrument for adapting to social change may overestimate the schools' ability to remedy social ills. There were some bright spots. The social barriers (not the economic barriers) for blacks appeared to be succumbing to school efforts in PINE CITY, Alabama. Control of the school system by blacks was increasing in ARCHIPOLIS and the GREATER BOSTON high school we observed, but even that

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*Joel Spring, The Sorting Machine: National Educational Policy Since 1945 (New York: David McKay Company, 1976).

slow change was not matched for Mexican-Americans in WESTERN CITY and RIVER ACRES. The disparity in economic opportunity and social privilege is not noticeably improved even though all of our schools' clusters had some involvement in federal war-on-poverty aid-to-education except ALTE and the Hardy cluster in URBANVILLE. The traditional view of our schools has been that they were the key agent in transferring the country from a manual-agrarian society to an industrial-commercial society, which we presume we wanted to be--therefore, the schools should be able to transfer us into anything else we want to be. It does not seem to work out that way.

This is not to suggest that the schools should not be participating or even leading in the efforts of a nation to improve itself. We should change our schools in terms of what is morally right as well as what is instrumental to change. The schools should be agents for improving the margins as well as the center, and the success of the system will be put to the test with its minorities: the blacks, chicanos, emancipationist women, handicapped and others. The schools should reflect our ideals. But our visits to eleven sites helped persuade us that too much of the improvement of our society was being assigned to the schools--and the school people were resistant to the assignment.

We were satisfied with the efforts of these schools to act as a forum for ideas of social change. The discussion of social reform was not as prevalent there as on television and was usually couched in traditionalist-value statements, but the debate was curtailed mostly by a reluctance to "get off the subject" of the regular lesson* rather than a reluctance to consider the social problems that needed correction. The debates that do occur may be a greater contribution to social change than either its role in desegregation and in economic reform for the issues of desegregation, poverty, sexism, special education for the handicapped, sex education were raised by the students and the teachers in the schools we visited.

Education is an institution. In this country it is a traditionalist institution. Public schools are organizations. We found them to be committed both to the service of society and the protection of themselves as organizations. They are social systems within the social system, enrolling 89% of all children between the ages of five and seventeen. This school age population is 25% of the total population.** In these schools the children learn who they are and who they are not; they learn ways of becoming somebody else and they learn the obstacles to becoming somebody else.

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*Many would argue that at least in the social studies the social change topics should be the lesson. We found essentially no advocacy among teachers, administrators, students, or parents to decrease the concentration on history and abstract political systems in order to spend more time on contemporary social issues in the social studies.

**10.5% of all children are enrolled in private schools, making 99.8% of all children between the ages of 5 and 17 enrolled in school. National Center for Educational Statistics. Statistics of Trends in Education, 1965-66 to 1985-86.

The schools continue to build their own social and instructional technology. They work hard at defining teacher, administrator, pupil, specialist, classroom, grade, and course. At the district level they are so formal, so well organized and defined on paper that they are easily identifiable and therefore vulnerable to attempts at manipulation. The purpose is to make them more manageable to administrators outside the school building, but they thus become vulnerable to management (manipulation) from any outside political forces. It is not surprising that, as observer Mary Lee Smith noted in FALL RIVER, Colorado (p 2:1):

> People outside the schools have relatively simple ideas about how schools work: to change education in a desired direction, one must merely manipulate one or two variables.

But any changes that must be made will be influenced by other changes taking place.

Our study was not a longitudinal study, so we had to rely for perceptions of change on what we knew to be true earlier at other sites and what our respondents told us. But we have little doubt about changes that are occurring in the following:

--in unionization of teachers, especially in VORTEX Pennsylvania, URBANVILLE Washington, COLUMBUS Ohio, and ARCHIPOLIS on the eastern seaboard

--in open or informal instructional arrangements, especially in our midwest suburb ALTE, RIVER ACRES Texas, VORTEX Pennsylvania and FALL RIVER Colorado

--in the size of school districts, especially at BRT Illinois, URBANVILLE Washington, RIVER ACRES Texas, and FALL RIVER Colorado

--in the source of funding, increasingly from federal and state sources, with accompanying restrictions for its use, at all our sites

--in the amount of desegregation in PINE CITY Alabama and in the GREATER BOSTON site

--in the use of automated and electronic equipment in VORTEX Pennsylvania, and at ALTE, our midwest suburb

--and in the use of special personnel, such as aides, in our GREATER BOSTON site, in VORTEX Pennsylvania, at ALTE, our midwest suburb, and at WESTERN CITY California.

These changes by and large have been structural changes within the educational system itself. They are changes that stand on their own and cannot be totally judged by outcomes in instruction. Unionization will affect teachers' income and ideas about work load--we do not have measures of educational quality or student achievement that are sensitive to their more indirect effects. It would be simpler if we could use such outcome measures, as critics and allies alike sometimes suggest we should, but the effects

on the schools and effects of the schools are parts of many social purposes, not just of getting children instructed. Science education and desegregation are now both purposes of the schools, sometimes they will be unrelated and sometimes not. In one of our sites we heard:

> *We would never have had a specialty program in chem technology if it weren't for desegregation. . . . We're enlarging the chemistry facilities at the magnet school and we're developing additional curriculum.*

It is difficult to consider the relationships of school and society by any small number inventories, tests, and social indicators.

In our CSSE schools we found change and we found stability. Generally the schooling process remained the same:

--the teachers were in control of classrooms

--the teachers identified the textbooks as the authority on knowledge

--emphasis was given to working hard, keeping busy, being polite, competing, aspiring to improve, working independently, and preparing for things to come

--the lessons were to follow an order, curricular things had their place

--a single dimension of work quality, graded usually from A to F was sufficient to evaluate students of diverse backgrounds, interests and modes of expression.

But even with this stability, in every site teachers, administrators and parents were saying that the children have changed. In many respects they do not like the change, even discounting the fact that no older generation probably has ever approved of change initiated by the younger. Each generation clearly sees that the younger folks do not work as hard as they did. And now children are seen to lack motivation, concern about the future, and respect for authority. "They think too much about cars. They go off around the world. They don't settle down to a real job." Teachers are as dismayed by this view as other adults are.

Most teachers feel that there is not much the schools can do to bring about social improvement. The case studies of FALL RIVER and GREATER BOSTON spoke of these limits, though without a strong sense of discouragement. At all the sites we found people feeling that the changes were happening too fast--that the schools could scarcely keep up, let alone lead the change toward the better or head off the change toward the worse.

Since schools participate in social change as a result of forces outside the community more than of those within, it is more a matter of when, where and how much change rather than whether or not at all. The PINE CITY Alabama school was ahead of the white community in the area of desegregation and was careful to hold the line elsewhere, both academically and socially. After thinking about these forces, ALTE observer Lou Smith wrote (p 3:26):

> The local district arrangements in curriculum and teaching--science education if you like, are not happenstance, not chance, nor accidents, but the resolutions of individual choices, contending points of view, and differential power. NSF (and the other outside groups) become a fourth category of contestants with its own resources and rewards, its own point of view with all the internal consistencies and inconsistencies, its own skill in persuasion and influence.

As more agencies express concern and attempt to help in the remedy, the feeling within the school is that control and hope for improvement are being lost.

Academically the desired change today is in the production of better achievement test scores and directing children's learning toward things most adults are familiar with. Change is desired for keeping up the advance of science, whether on environmental issues (so noticed in FALL RIVER and ALTE) or with regard to the traditional route to college (so much a concern in URBANVILLE, WESTERN CITY, VORTEX, and RIVER ACRES). Socially the desired change is in responsibility to majority community values by local communities and to pluralist groups by national groups. Most people want "all of the above." The argument starts when we talk about how to get them all. One science teacher in URBANVILLE said:

> *It's okay for them (minority students) to be here but they better understand that they have to live up to our standards.*

A less frequently heard voice replied:

> *It is time we recognized that a pluralistic community means that different standards are okay for different people.*

With such pervasive and subtle disagreements as to the desirability of social change it is not surprising that the schools have a confused and problematic role in our contemporary society. And of course, the confusion spills over into the traditional role of the schools to provide instruction and educational opportunity to the youth of the country.

Curriculum Change. In an article which asked: "Whatever Happened to Curriculum Reform?" Donald Schön wrote of his concerns about past efforts to fashion nationwide curriculum changes.* He specifically noted the roles of NSF and the science "establishment" in the course content improvement effort of the last two decades. This M.I.T. philosopher of science speculated:

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*Donald A. Schön. "Whatever Happened to Curriculum Reform?" National Elementary Principal 56 (September/October 1976): 31.

> *What would it be like to make implementation or adaptation central to the enterprise? How might a central institution take on the role of providing the framework, tools, means of assessment, and resources to local schools so that they can become more competent at adaptation or implementation and indeed at design?*

As indicated several pages earlier, the purposes of local practitioners are not always in tune with curriculum specialists or leaders in science. In fact, much of the literature about curriculum reform alludes to the unwillingness of teachers and administrators to pursue the aims of those on campuses and in agencies. The presentation of the previous chapter, that the problem is less one of willingness than of contradictory purposes, has implication for future plans at reform.

The dilemma presented to federal agencies was nicely put by Ernest House:*

> *. . . Most innovations as now advanced are shaped by the producing system rather than by the people who must use them. One can create new medicines and try them out without any understanding of the human body, but that is not always an effective or wise thing to do. The receiving organism must be understood and respected.*

These CSSE case studies, as well as other parts of our report, lend much credence to the observations above. Organizational barriers to educational reform are particularly formidable in the United States. The late economist E. F. Schumacher underscored another dimension to the quandary. Cautioning that new legislation or policies are only preparatory measures, he stated: "New methods of organization are required, because the policy is in the implementation."** (his italics) A report of the Education Commission of the States spoke of the resulting condition.

> *Many innovations in instruction which have been introduced in order to satisfy the demands of parents and students have been found wanting. One of the reasons why so many innovations have failed may be the fact that they are introduced into a matrix of the traditional form of governance in education.****

There are those who feel that educational management may be becoming politically sophisticated--with the expectation that fewer "non-implementable" programs would be legislated in the future.

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*Ernest R. House, "Transferability and Equity in Innovation Policy," mimeographed (Urbana: CIRCE, University of Illinois, 1976).

**E. F. Schumacher, Small is Beautiful: A Study of Economics as if People Mattered (London: Blond & Briggs, 1973), p. 188.

***Intergovernmental Relations and the Governance of Education: A Report to the President's Commission on School Finance, Russel B. Vlaanderen and Erick L. Lindquist, Education Commission of the States, Denver, Colorado, 1972, pp. 4-5.

> *It is clear that localism continues to hold significant symbolic value in American federalism, but has more persistent operational consequences in education than in any other sector of governmental activity. . . . When federal funding at long last became available education was catapulted into intergovernmental administrative arrangements that were already familiar in other sectors, improvisational and unwelcome as they may have seemed to educators. Now that the initial shocks have subsided, the latter have begun to develop political skills and wrestle with concerns comparable to those of other participating sectors, trying to sort out the dilemmas of centralized policy making and decentralized delivery of services, modes of accountability, and meaningful citizen participation.**

Several "targets of opportunity" for productive--and needed--research are sketched in the Executive Summary of this CSSE Report. Many other CSSE observations have implications for an NSF research program. As one illustration, growing concern among many citizens relative to the desirability of small-scale, community based programs and services is apparent in the same historical moment when pent-up demands for equity are adding new layers of managerial functions to the burdens assumed by public schools. What are the implications for research, policy, and practice?

Contrasting viewpoints of the dynamics surrounding curriculum change appear below. The portrayal they offer holds unique salience for the National Science Foundation. Richard Carlson said:

> *Modern math does not call upon the school system to provide a completely new service or teach a new subject. Modern math is a new way of ordering and teaching a firmly established part of the school program. To adopt modern math a school system generally accepts new textbooks and other instructional material and provides some retraining of teachers.***

But Seymour Sarason said:

> *Many teachers are in trouble with the new math. Second, the sources of trouble are many but among the most important are the consequences of how it was introduced to teachers, and the difficulty teachers have in voicing questions, problems, and doubts which they fear will*

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*Edith Mosher, "Education and American Federalism--Intergovernmental and National Policy Influences," The Politics of Education, 76th Yearbook of the National Society for the Study of Education, Part II, ed., Jay Scribner (Chicago: University of Chicago Press, 1977), p. 118.

**Richard Carlson, Adoption of Educational Innovations, The Center for the Advanced Study of Educational Administration (CASEA) (Eugene: University of Oregon, 1965), pp. 14-15.

> *be construed as a lack of intelligence and competence, and the tendency on the part of administrators and supervisors to relate to teachers in a way conducive to one-way-conversation.**

Certainly most of our observations have been in line with Sarason's appraisal. A more recent publication of his treated "the myth of unlimited resources" allegedly guiding reform efforts in the 1960s, and called for more use of "networks,"** His exploration of "mesh (saturated) networks for diffusion of innovations or cultural norms" deserves further study. It appears closely related to the earlier work of Swedish geographer Torsten Hagerstrand and his American interpreters.***

Universities and curriculum reform funding sources confront the possibility of serious "mismatches" between current arrangements for institutional services and emerging social problems, Schön asserted.**** Recent struggles with educational dissidents and social critics on the one side, and fundamentalist groups and their Congressional allies on the other, have made NSF officers aware of the consequences of controversial "mismatches." Several years ago, Dean Robert T. Schafer of Teachers College, Columbia University, cautioned that universities face many dangers in trying to provide services (including curriculum development to meet the broad-based needs of public school children).*****

> *Since basic knowledge in many areas is lacking, much so-called educational service consists in reality of providing pseudo-authoritative answers to questions not presently capable of resolution. . . . This kind of so-called professional service can only dissipate the energies of a university faculty.*

Even the appraisal of educational needs may be an inappropriate task for university research and development teams. Lee Cronbach cautioned that educational evaluation "is first and foremost a political activity, a function performed within a social system."****** We submit that the CSSE studies clearly document the need to examine the "system requirements" of schools as political-social institutions.

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*Seymour Sarason, The School Culture and Processes of Change, The Henry H. Brechbill Lectures, University of Maryland, 10 January 1966, p. 16.

**S. Sarason, C. Carroll, K. Maton, S. Cohen, E. Lorentz, Human Services and Resource Networks, (San Francisco: Josey-Bass Publishers, 1977).

***Two of Hagerstrand's publications stand out: The Propagation of Innovation Waves (Lund, Sweden: Royal University of Lund, 1953); and Innovation Diffusion as a Spatial Process (Chicago: University of Chicago Press, 1967). Ernest R. House, The Politics of Educational Innovation (Berkeley, Cal.: McCutchan Publishing Corporation, 1974), is one who has explored Hagerstrand's theories.

****Donald A. Schön, "The Technology of Public Learning," 1974, (mimeo, p. 3).

*****Robert J. Schafer, The School as a Center of Inquiry (New York: Harper and Row, 1967), pp. 75-76.

******Lee J. Cronbach, "Remarks to the New Society," Evaluation Research Society 1 (April 1977): 1-2.