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MINNESOTA
STATE GOVERNMENT
ISSUES

Role of public education in fostering
institutional change: Assessment of ways
by which public education can be at the
forefront of change.

Department of Education
August 1984

Executive Branch Policy Development Program
1984-1985

I. *Executive Summary*

1. *Issue* <u>*Title*</u>
   Role of public education in fostering institutional change: Assessment of ways by which public education can be at the forefront of change.

2. *Team* <u>*Leader*</u>
   Nan Skelton, Assistant Commissioner
   Department of Education

3. <u>*Subcabinet*</u>
   Education/cultural affairs

4. <u>*Summary*</u> *of the* <u>*Issue*</u>
   This policy issue focuses upon the role of public education in fostering institutional change. The underlying presumption is that the educational system itself is in need of modification to better serve needs of students and other citizens of the state.

   In pursuing the issue of institutional change, three factors must be considered. First, change comes slowly and with difficulty. Many persons will cite the quality of education in this state and suggest that a wholesale revision is not really necessary. Second, the preponderance of current opinion is that change must occur at the school building and school classroom level to be truly effective. Third, some major activities are already underway, albeit many on a pilot basis, which can significantly modify our current educational system.

   A. *Major* <u>*fundings/conclusions*</u>

      (1). Published commission studies of the last year have spurred National debate concerning the quality of public education. The State of Minnesota has reacted strongly to criticisms of public education. Commissioner Randall cites ten current studies of education in this state and four new action oriented initiatives which are aimed at ameliorating some areas of need.

      (2). Minnesota currently has a quality education program as evidenced by its high school graduation rate, student performance on nationally and regionally compared test scores, and percent of students who go on for some form of higher education.

      (3). The American public gives education a higher performance "score" than has been the case in recent years and appears ready to infuse additional sums of money if it can be assured of a quality product.

      (4). The weight of professional opinion suggests that change must occur at the school building or school classroom level. The shifting emphasis is upon decentralized rather than centralized decision making.

      (5). School staff, administrative and instructional, are keys to any educational reform. Training of staff in managerial and instructional strategies is essential.

      (6). The use of technology is now paramount to the learning process.

B. _Recommended Course of Action_

Ten recommendations are made in this report.
(1) The new state school for the arts should be supported.

(2) Regional/area magnet schools of excellence should be established.

(3) The school effectiveness model should be extended.

(4) Low cost strategies involving technology, training, and incentive programs should be encourage.

(5) Higher cost strategies involving student time on task and rewards for teacher performance should be considered.

(6) The school based management model should be thoroughly tested and promulgated.

(7) One progressive education model test site should be established.

(8) Learner outcomes and mastery based prototypes should be fostered.

(9) Staff should be trained in the process of planning for change.

(10) State supported research and development should be greatly increased.

C. _Budget Implications_

No cost savings to the state are proposed under these recommendations since the matter of institutional reform will require improvement to existing structure and additions in the form of new initiatives. The full report suggest a budget amount which would be required for each recommendation (See Appendix H). The recommendations can be funded in part for as little as $10,000 per site for school effectiveness (however, there are 1500 potential sites) to $225,000,000 for teacher salary increase. The study team recognizes that it would be financially impossible to support all recommendations in full but proposed a series of alternatives for decision by state policy makers.

D. _Timetable for Implementation_

The recommendations are nearly discrete which suggests that they could all be implemented at once or could be phased in over a period of time. None of the recommendations can be accomplished without infusion of large amounts of state money. Most of the pilot programs could be fully operational and independent within a three year funding period.

POLICY ISSUE REPORT

Role of public education in fostering institutional change: Assessment of ways by which public education can be at the forefront of change.

II. Background

1. Issue background

In the past year or two, education has been the subject of intensive national as well as state study and critical examination. The Minnesota Commissioner of Education, Ruth Randall, issued a report in October, 1983, which responded to a legislative study mandate and concluded that education must change. That determination was based upon review of a number of reports -- nine of which were summarized and are contained in the appendix to this report (Appendix A).

In pursuing the issue of institutional change, three factors must be considered. First, change comes slowly and with difficulty. Many persons will cite the quality of education in this state and suggest that a wholesale revision is not really necessary. Second, the preponderance of current opinion is that change must occur at the school building and school classroom level to be truly effective. Third, some major activities are already underway, albeit many on a pilot basis, which can significantly modify our current educational system. Some of these models are reviewed in this report and lead to the final recommendations.

2. Issue Charge

This policy issue focuses upon the role of public education in fostering institutional change. The underlying presumption is that the educational system itself is in need of modification to better serve needs of students and other citizens of the state. At its initial meeting, the team concluded that "institutional change" for study purposes would be limited to public elementary and secondary schools.

3. Analysis Method

To address this issue, a study team was formed composed of:

Gayle Anderson	Department of Education
John Firman	State Arts Board
Diane Hedin	University of Minnesota
Dean Honetschlager	State Planning Agency
Gene Kairies	Department of Education
Floyd Keller	Department of Education
Toyse Kyle	Department of Education
Nan Skelton	Department of Education

Study direction was given by Nan Skelton with Gayle Anderson providing staff support. The Team met as a body on May 10, May 21, June 4, June 18, and August 9. Staff also met individually with member of the team to review progress.

After considering several options in this problem area, a decision was made to survey a number of possible alternative models of change and then to focus upon the causes and processes of change. As background, commission reports and other authoritative articles from the past year were reviewed.

Two presentations by resource persons from the Department of Education assisted in understanding of related issues. However, the primary resource was review of a plethora of documents which have addressed this and related issues. Some of the most relevant of these are summarized in the report appendix.

III. Findings/Conclusions

Some general conclusions may be drawn from the literature review:

1. Published commission studies of the last year have spurred National debate concerning the quality of public education. Several of the reports are summarized in Appendix A.

2. The State of Minnesota has reacted strongly to criticisms of public education. In the Report Actions for Excellence Recommendations, Commissioner Randall cites ten studies of selected elements of education which are, or recently have been, ongoing. She also notes four new action oriented initiatives aimed at ameliorating some areas of need.

   Some National studies have suggested that performance of American students lags behind that of students from other countries. Other studies, however, refute those claims by stating that, when individual student variables are controlled, the American student out-performs her/his counterparts in these other countries. This latter point is made rather clearly by Lawrence Stedman and Marshall Smith in a Fall 1983 issue of Contemporary Education Review.

3. Minnesota is known for the quality of its educational system and the success of its school graduates. Reforms are needed in public education but we must take care to retain successful programs while strengthening those areas which need improvement.

   Supportive indicators of Minnesota schools were identified by the Department of Education in its document A Comprehension Plan for School Effectiveness: Minnesota has long taken pride in its commitment to education and the quality of life that has resulted. A few such indicators are as follows:

   - Last year we ranked first in the nation with an 89% graduation rate vs. 74% nationally.

        42% of our graduates went on to college, 15% to vocational training. Minnesota is also among the states with the lowest percent of dropouts and highest percent employed after graduation.

   - We rank seventh among all states on what we spend for public education ($3,112 per pupil in 1981-82).

   - On Assessment tests in the "basic" subjects (math, reading, writing) our students score high when compared with other states.

        Two years ago Minnesota 11th graders scored 79% on reading assessment tests, compared with a national average of 74% and 70.07% in the central states. Last year Minnesota 4th

graders scored 71.5% in math, compared with a national
average of 67.3% and 69.5% in the central states.

- Minnesota students compared favorably on college aptitude tests.

Last year Minnesota college-bound students averaged 482 on
the verbal part and 538 on the math part of the Scholastic
Aptitude Test (SAT); the national averages were 425 and 468,
respectively. In the American College Testing Program (ACT),
Minnesota students had a median score of 20.2 out of a
possible 36; the national average was 18.3.

However, even in Minnesota most school improvement has historically
addressed one change factor at a time. Evaluations of the change
efforts usually have resulted in no significant difference and
researchers have then called for more money and further research.
The increase of resource allocations to schools is not likely to
continue at the same rate in the future. A need for greater
efficiency and effectiveness in the use of the present scarce resource
is in order.

State Representative Ken Nelson points out in An Action Plan for
Improving Minnesota's K-12 Education:

MINNESOTA PUBLIC EDUCATION IS GOOD, BUT IT CAN BE BETTER.
Minnesota students consistently rank higher than the national
and regional averages on achievement tests. We have the best
high school completion rate in the nation and 75 percent
of high school graduates go on to post-secondary institutions.
More educational opportunities are offered to more of our
children than in foreign countries. Minnesota is credited
with having the best link between job training and education
in the country and with being a leader in the instructional use
of technology. Our public education has many academic strengths
upon which we can build our educational improvements.

4. The American public appears ready to infuse more money into elementary
    and secondary education if they can be assured of a quality product.
    Allan Odden, in the January 1984 issue of Phi Delta Kappan states"...
    the public has changed; it now supports improvement in the, quality
    of education and is willing to pay for it. This surprising finding
    has repeatedly emerged in recent public opinion polls conducted
    nationally, in several states, and in numerous localities." In
    opinion polls, the Roper polling organization has found the public
    to feel that too little is being spent on public education (but at
    the same time do not support additional tax increase).

For 16 years, the Gallop Poll has been showing a declining level
of public confidence in education. In 1984, however, this level jumped
by 11 percent to 42 percent of the people polled expressing an
"A" or "B" grade for the quality of education. Another Gallop Poll
indicator of public confidence was an increased willingness to pay
higher taxes if education needed more money. As Education USA stated,
"Among public school parents, those willing to raise their taxes
increased from 48% last year to 54% this year. Those opposed dropped
45% to 38%. Similarly, a much-higher percentage (66%) said they
would be more willing to vote for a presidential candidate who supported
higher federal aid for education than those less likely to (22%)."

5. *Strategies aimed at educational excellence should support reform at the individual school building level.* This concept, reform beginning at the school or classroom level, is emphasized over and over in recent literature. The Citizens League in its 1982 report, <u>Rebuilding Education to Make It Work</u>, called clearly for a transition to school building decision-making. Commissioner Randall has stressed the importance of school buildings, school administrators and classroom teachers in the educational process. Allan Odden in the January 1984 <u>Phi Delta Kappan</u> summed it up thus:

> The research on effective schools has made it clear that the individual school is the proper unit for educational renewal. Centralized standards and requirements may be necessary, but so is decentralized implementation. This simultaneously tight and loose approach is crucial to the success of any reform strategy. Each effective school is bound together by a belief structure, a value system, and a consensual - not a hierarchical - governance system. Policies that demand uniformity from school to school are likely to destroy these important elements.

6. *School staff, administrative and instructional, are key to any educational reform.* For others to fulfill their responsibilities, training in new management techniques and instructional strategies is essential. This is emphasized over and over in such documents as Citizens Leagues reports, Department of Education publications, Legislative documents, and in numerous professional publications.

7. *Public confidence in education and public involvement in education appears requisite to school reform.* Every indicator suggests the public is concerned about education and willing to support change. At the same time, the necessity to actively involve the public has been stressed by nearly every person and organization which considers the matter.

IV. Alternative Options

The State of Minnesota reacted quickly when the need for educational reform was first broached. In this study, recognition was given to those exemplary programs which have already begun on at least a pilot basis. Among these are:

1. <u>School site management</u> - Wherein a broadly based committee has responsibility for all aspect of school operation including budget, staff and program. The model relies heavily upon citizen involvement, shared decision-making, staff development and student performance. Start-up costs of about $150,000 per school over a three year period could be expected but thereafter the school should operate within a normal budget. (See appendix B)

2. <u>School for the arts</u> - Wherein a state committee is currently planning for one school to concentrate upon instruction in the arts and to enroll students from throughout the state. The committee report is to project costs and curriculum content of such a school. The underlying principle is that truly gifted students may receive a direct educational experience in such a school while staff and students of the school serve as an arts resource to other schools of the area or of the state. (See Appendix C)

3. <u>School Effectiveness</u> - Wherein 15 criteria for effective schools have been identified and personnel from 26 schools throughout the state have been selected to be trained in and serve as models for this concept.

The criteria for effective schools were determined by the Minnesota Department of Education after an extensive study. Currently, personnel from 26 school districts have been trained in this technique and the schools will serve as demonstration sites. Cost of the initial program is $350,000 but additional sites could be established for approximately $10,000 each. (See Appendix D)

4. *Learner outcome or mastery based* - *Wherein staff of the Department of Education have examined this model in other states and are currently developing a system for possible utilization in Minnesota. Learner outcomes are statements of specific knowledges or skills that students are expected to attain. Mastery based involves a method for assessing student progress toward attainment of the learner outcomes. Department of Education staff estimate that about $500,000 over a three year period would be necessary to establish a state base from which school districts may draw options and procedures. (See Appendix E for one school district's approach to this concept)*

5. *Regional Schools of excellence* - *Wherein magnet schools are proposed for several geographic areas of the state which would emphasize priority study areas (e.g. mathematics, sciences, languages). These schools would be similar to the school for the arts noted in item 2 above. A student would be able to attend a magnet school which would best serve her/his interest and ability. A comprehensive educational program would be offered with special emphasis upon the priority study area. These schools would not require separate buildings since use of existing facilities would be a contingency of site selection. However, additional special staff, materials and equipment would be required at each site. No cost saving can be projected for the "home" school district and each site might be expected to cost the state an additional $100,000. The total cost to the state is a multiple of this amount by the number of selected sites.*

6. *Progressive School Model* - *Wherein learning is an individual and life-long responsibility, technology is seen as a prime medium for knowledge attainment, and learning is not confined to a school building. With our current emphasis on technology, this model is being tested in part. However, to fully determine the feasibility of such a program, a whole new school would have to be created in which the learning environment would be substantially different from that found in a contemporary school. Start-up costs for each site would be extraordinary because of a severe departure from the existing more traditional model. One estimate suggests that about $250,000 of additional state funds (additional to the funds normally available) per site per year would be necessary to establish the model and this assumes that an equipped existing central facility (school) is available. (See Appendices F and G)*

7. *Research and Development* - *Wherein the state makes a committment to systematically study and test alternative educational models. Knowledge of success or failure of an educational innovation can be gained through a small-scale pilot program. Few school districts can mount a serious research effort without some source of supplemental funding. At least $1,000,000 per year should be made available for efforts such as these.*

No one of these alternative is seen as possessing the answer to education reform for everyone's satisfaction. By serving as visual models, however, others may learn and adapt so as to meet with local desires.

V. Recommendations

The literature suggest that change comes about as a result of three primary factors -- wishes of the public, leadership in the reform process, and resources to accomplish the task. Accepting these premises, it is clear that public involvement in education is essential. Further, leaders must be developed to stimulate change. Finally, involved persons must be given the skills and resources to accomplish the goals.

The direction of this study report is to encourage extension of many current initiatives. Included are:

1. The new state school for the arts should be supported with state funds.

2. Regional/area magnet schools of excellence should be established and funded by the state in such priority curricular areas as mathematics, sciences, foreign languages, and the arts.

3. The school effectiveness model authorized by the State Legislature should be extended and expanded. Staff from other schools should be supported in viewing the model sites and should receive training in the model.

4. Low cost strategies should be supported which will further educational excellence:

    a. Technical assistance and state funding should be available for training in administrative skills, training of teachers in areas of instructional effectiveness, training in school improvement practices, and informing persons of existing successful programs and materials.

    b. Incentive programs should be established which make funds available for development of cost effective or innovative projects, provide a bonus program for gains in productivity, and provide for research into the effectiveness of operating proposed programs.

5. Higher cost strategies should be supported which:

    a. Improve teacher compensation such that an incentive for excellence exists.

    b. Lengthen the school day and/or the school year to provide additional opportunity for learning.

    c. Introduce new programs into the curriculum and thus extend opportunities for students.

    d. Emphasize use of technology for providing or supporting excellence in education.

6. The school based management model (in which the individual school is directed by a broadly based committee) should be more fully tested, then additional sites should be established and supported in areas throughout the state.

7. One progressive education model site should be established and tested. This exemplary program would rely extensively upon technology in provision of educational services, would utilize the entire community as a classroom, and would establish partnerships with businesses and other agencies.

8. *The learner outcome and mastery based model should be fully developed, tested and implemented in the schools.*

9. *Training should be available for school district personnel in the process and procedure of planning for change.*

10. *The State should extend its research and development responsibilities by providing additional funding for the Council on Quality Education's study of alternative educational practices.*

Full implementation of all of these recommendations would be costly. An analysis of estimated costs is contained in Appendix H.

Appendix A

SUMMARIES OF NINE NATIONAL EDUCATION REPORTS

A number of reports on U.S. education have been published during the past year and have received national publicity. Each report calls for changes in education. A wide vareity of perspectives is represented in the recommendations. Excerpts and edited material, included in the following selective summaries, are from Minnesota House research staff and the "Almanac of National Reports" by the National Association of Secondary School Principals. The nine reports include:

1. A Nation at Risk: The Imperative for Education Reform, The National Commission on Excellence in Education (Chairman: David P. Gardner, President, University of Utah, President Elect, University of California)

2. Action for Excellence: A Comprehensive Plan to Improve Our Nation°s Schools, Education Commission of the States, Task Force on Education for Economic Growth (Chairmen: James B. Hunt, Jr., Governor of North Carolina; Pierre S. duPont IV, Governor of Delaware; Frank T. Carey, Chairman of the Executive Committee, International Business Machines, Inc.)

3. Making the Grade, Twentieth Century Fund, Task Force on Federal Elementary and Secondary Education Policy (Chairman: Robert Wood, Director of Urban Studies, University of Massachusetts)

4. A Place Called School: Prospects for the Future, "A Study of Schooling" (Author: John I. Goodlad)

5. High School: An Agenda for Action, The Carnegie Foundation for the Advancement of Teaching, supported by the Atlantic Richfield Foundation and the Carnegie Corporation of New York (Chairman: Ernest L. Boyer, President, The Carnegie Foundation for the Advancement of Teaching)

6. Education and Economic Progress: Toward A National Education Policy, The Carnegie Corporation (Chairmen: James B. Hunt, Governor of North Carolina and Dr. David Hamburg, President of the Carnegie Corporation of New York)

7. Academic Preparation for College: What Students Need to Know and Be Able to Do, The College Entrance Examination Board, Education Equality Project (Chairman: George H. Hanford, President of the College Entrance Examination Board and the College Board°s Office of Academic Affairs)

8. School and College - Partnerships in Education, Carnegie Foundation for the Advancement of Teaching

9. A Celebration of Teaching: High Schools in the 1980s, National Association of Secondary School Principals, and Commission on Educational Issues of the National Association of Independent Schools (Chairman: Theodore R. Sizer, recent headmaster of Phillips Andover Academy, Andover, Massachusetts, and former Dean, School of Education, Harvard University)

1.
A Nation at Risk: The Imperative for
Education Reform

Chairman: D. Gardner

The Commission found that secondary school curricula have been homogenized, diluted, and diffused. The curricular smorgasbord has resulted in relatively few students choosing to take the traditionally more difficult courses. Homework requirements have decreased. Time spent in mathematics and science courses in other industrialized nations is about three times as much as the time spent by the most science-oriented U.S. students. Few states require foreign language or more than one year of math and science instruction. Many states allow a substantial number of electives for high school graduation; minimum competency examinations have resulted in lowering the educational standards. One-fifth of the four-year public colleges accept every resident graduate regardless of grades. Many books do not challenge students, and schools are spending less on textbooks and instructional materials. American students spend much less time on school work than students in other countries. Time spent in the classroom and on homework is often used ineffectively. Schools are not doing an adequate job in helping students develop productive study skills and the willingness to spend time on school work. Not enough academically-able students are entering the teaching field; teacher preparation programs need substantial improvement. The professional working life of teachers is generally unacceptable, and a serious shortage of teachers exists in key fields.

Recommendations:

1. **Content** State and local high school graduation requirements should be strengthened, and, at a minimum, all students should be required to take the following curriculum during their four years of high school: 4 years of English; 3 years of mathematics; 3 years of science; 3 years of social studies; and one-half year of computer science. For the college-bound, 2 years of foreign language is also recommended;

2. **Expectations** Schools, colleges, and universities should adopt more rigorous and measurable standards, and higher expectations for academic performance and student conduct; and four-year colleges and universities should raise their requirements for admission;

3. **Time** Significantly more time should be devoted to learning the five new basics (English, mathematics, science, social studies, and computer science), which would require more effective use of the existing school day, a longer school day, or a lengthened school year;

4. **Teaching** Potential teachers should meet high educational standards and demonstrate an aptitude and competence for teaching; salaries should be increased, be professionally competitive, market-sensitive, and performance-based; school boards should adopt an 11-month contract for teachers; career ladders for teachers should be developed; substantial non-school personnel resources should be used to solve the math/science teacher shortage; incentives should be made available to attract outstanding students; master teachers should be used to design teacher preparation programs and supervise beginning teachers, and

5. **Leadership and Fiscal Support** Citizens should hold educators and elected officials responsible for providing the leadership necessary to achieve these reforms, and citizens should provide the fiscal support and stability to bring about the reforms.

2.

Action for Excellence: A Comprehensive Plan to Improve Our Nation's Schools

Chairmen, J. Hunt, P. duPont IV, F. Carey

The Task Force, made up of government, business, labor and education leaders, believes that technological change and global competition make it imperative to equip all public school students with skills that go beyond the "basics." The implication of this imperative for educational policy is two-fold: (1) the definition of "basic" skills must be upgraded to include more technologically sophisticated skills, and (2) the educational system must be mobilized to teach the new skills. The report indicates that student achievement is deficient, especially in the fields of mathematics and sciences, and student performance of higher-order skills (inference, analysis, interpretation and problem-solving skills) is declining. Employers, in particular, perceive graduates entering jobs as having skills deficiencies whereas educators assess the majority of graduates as "adequately prepared." Qualified teachers are in short supply in critical subjects. Teacher salaries, reflecting low levels of esteem accorded teachers in our society, are cited as a primary reason for the "teacher gap." Curriculum must be strengthened in three ways:

1. Teaching materials which are increasingly obsolete must be revitalized, and these materials must be aimed at attracting, motivating and establishing competency in students from all ability and interest groups.

2. Instructional time in science and math must be increased.

3. Modern technology must be integrated into instructional programs.

School systems must be organized more efficiently; school principals must be free to spend their time managing education. The greatest overall educational deficiency is absence of clear, compelling and widely agreed upon goals for improving educational performance.

Recommendations:

In "Action Plan to Improve the Schools" contains eight recommendations of the Task Force:

1. Develop, and put into effect as promptly as possible, state plans for improving education in the public schools (K-12);

2. Create broader and more effective partnerships for improving education in the states and communities in the nation;

3. Marshal the resources which are essential for improving the public schools;

4. Express a new and higher regard for teachers;

5. Make the academic experience more intense and more productive;

6. Provide quality assurance in education;

7. Improve leadership and management in the schools, and

8. Serve better those students who are now unserved or underserved.

3.
Making the Grade

Chairman: R. Wood

The Task Force identified reasons for problems in the educational system. Excessive burdens have been placed on the schools in the last 30 years such as: resolving racial problems; providing a wide array of social services, while at the same time training an increasing percentage of youth which include large numbers of children with learning and behavioral problems. Difficulties also are caused because of demographic changes in student personnel and attitudinal changes toward traditional mores and values. Drugs are more readily available, the divorce rate is higher, there is increased permissiveness in the homes, and distractions are caused by television and video games. Inappropriate judicial intervention and the bureaucratization and politicization of the schools cause more problems. The Task Force believes that the federal education policy must replace the current emphasis on regulations and mandates with a new emphasis on incentives.

Recommendations:

1. The executive and legislative branches of the federal government must emphasize the need for better schools and a better education for all young Americans;

2. A national Master Teachers Program which recognizes and rewards teaching excellence should be established;

3. The federal government should clearly state that the most important objective of elementary and secondary education in the United States is the development of literacy in the English language. Therefore, the Task Force recommends that federal funds now going to bilingual programs be used to teach non-English-speaking children how to speak, read, and write English;

4. The federal government should emphasize programs to develop basic scientific literacy among all citizens and to provide advanced training in science and mathematics for secondary school students;

5. The federal government should continue to provide special educational programs for the poor and for the handicapped. The Task Force believes that the guiding principle should be that categorical programs required by the federal government should be paid for from the federal treasury;

6. "Impact" aid, originally aimed at helping cushion the burden imposed on local school facilities by the children of military personnel, should be reformulated to focus on school districts that are over-burdened by substantial numbers of immigrant children, and

7. Special federal fellowships should be established for students who repeatedly fail city or state competency examinations or fail in other ways to attain their academic capacity. These fellowships would be awarded to school districts to encourage the creation of small, individualized programs staffed by certified teachers and run as small-scale academies.

4.
A Place Called School: Prospects for the Future

Author: J. Goodlad

Dr. Goodlad's book is based on <u>A Study of Schooling</u>, which is considered to be the most extensive on-the-scene investigation of American education ever undertaken. He directed this landmark study over several years, with trained investigators going into communities in all areas of the country. The data are very extensive and cover all aspects of schooling, including areas such as teaching practices and methods, school and classroom organization, curriculum, school/community relations, students' perceptions and interests, parental roles, and time spent on instruction. In short, they studied schools as total entities. Thirty-eight schools were studied in 13 communities located in seven sections of the country. Within these communities they visited 1,016 classrooms, questioning all the principals, 1,350 teachers, 17,163 students, and 8,624 parents. The schools which were selected differed in location, size, characteristics of student population, family incomes, racial/ethnic mix, among other things.

Recommendations:

Dr. Goodlad recommends improving the schools (Numbers one through five), and makes recommendations beyond the present schools (Numbers six through nine).

1. States must articulate clearly a full range of goals for education; school districts must assure that a comprehensive curriculum encompassing academic, citizenship, vocational and personal goals is available to all students.

2. Each school should develop three- to five-year development plans; the responsibility for school improvement would shift from district offices to individual schools.

3. A balanced curriculum for every student would include:

    a. Literature and language (up to 18%)
    b. Mathematics and science (up to 18%)
    c. Society and social studies (up to 15%)
    d. Arts (up to 15%)
    e. Vocations (up to 15%)
    f. Physical education (up to 10%)
    g. Special interest (10-20%).

    Curriculum centers should be established which would design ways of combining and altering the above domains to assure curricular balance.

4. Distinctions should be made among various assisting and apprentice roles; more highly paid teachers, and head teachers; potential teachers should enroll in a two-year program of professional studies and clinical experiences, followed by a residency in demonstration schools.

5. Eliminate conventional ability grouping or tracking; emphasize groupings of students with varying abilities to reinforce the notion of working cooperatively and to provide opportunities for small-group peer tutoring.

6. Formal schooling should begin at age 4 and secondary schooling should end at age 16. The 12 years should be divided into three closely-linked phases of four years each. Children should enter school and move from phase-to-phase on their birthdays. Each of the three phases should be organized vertically instead of horizontally and include nongraded units of up to 100 children.

7. Any serious discussions of education beyond schools must include consideration of the educating capable of being done by new forms of communication. Technology has added to the array of educating agencies and institutions, rearranging the former triad of home, church, and school.

8. Schools should place more emphasis on development of a mature perspective on careers, career choice, and bases of career decision-making, and less emphasis on providing sequences of courses directed toward training. Schools and the workplace should engage in collaborative efforts to assure a broad career for every student.

9. Establish collaborative networks focusing on education in each community, and which

    a. improve the quality and general effectiveness of existing institutions,
    b. develop an understanding of education as a community-wide rather than only a school-based activity, and
    c. develop new configurations of education institutions including both the traditional ones and those of the media, business and industry, and cultural agencies.

5.

High School: An Agenda for Action

Chairman: E. Boyer

After completing visits to schools, reviewing the literature, and talking with colleagues both in and out of education, twelve themes were identified that provide a framework for reform: goals, language, curriculum, transition, service, teachers, instruction, technology, flexibility, leadership, connections, and commitment. These themes, taken together, form an agenda for action.

Recommendations:

1. Every high school should establish clearly stated goals--purposes that are widely shared by teachers, students, administrators and parents. School goals should focus on the mastery of language, on a core of common learning, on preparation for work and further education, and on community and civic service;

2. Elementary schools should build on the remarkable language skills a child already has acquired. The English proficiency of all students should be formally assessed before they go to high school. Remediation should be provided when needed. All high school students should complete a basic English course with emphasis on writing, and some study in the spoken word;

3. A core curriculum should make up two-thirds of secondary education. It should include: literature, history, mathematics, science, foreign language, arts, civics, nonwestern studies, technology, the meaning of work, and health. All students, during their senior year, should complete a senior independent project, a written report that focuses on a significant social issue and draws upon the various fields of study in the academic core;

4. The high school should help all students to move with confidence from school to work and further education. While the first two years of high school should be primarily common core, the last two should be about half "elective clusters." Such a program would include academic subjects, exploration of a career option, or both. To offer a full range of elective clusters, the school must establish connections with libraries, museums, art galleries, colleges and industrial laboratories. Guidance services must be significantly expanded; a new student achievement and advisement test should be developed to help students move on with confidence to colleges and to jobs. A nation-wide survey of schools and sampling of graduates regarding their post-high school placement and experience is recommended;

5. All high school students should complete a service requirement--a new carnegie unit--that would involve them in volunteer work in the community or at school. Students could fulfill this requirement evenings, weekends and during the summer. Students themselves should be given the responsibility to help organize and monitor the new service program and to work with school officials to assure that credit is appropriately assigned;

6. The working conditions of teachers must improve. High school teachers should have a daily teaching load of four regular class sessions. In addition, they should be responsible for one period each day for small seminars and for helping students with independent projects. Additional recommendations relate to preparation time, teacher excellence, funds for special projects, recognition and rewards, increased salaries, recruitment of outstanding students into teaching, improvement of teacher preparation, quality inservice for teachers, career paths, and use of non-education professionals in classrooms;

7. Teachers should use a variety of teaching styles, expectations should be high, standards clear, evaluation fair. Original source materials should be used along with textbooks;

8. Recommendations to extend the teacher's reach through technology include: relation of computers to educational objectives, availability of instructional materials for equipment, teacher inservice, technology resource centers, use of cable television and commercial television, and establishing a national film library;

9. The class schedule should be more flexibly arranged to permit larger blocks of instructional time; small schools should use off-campus instruction and mobile units; large schools should organize into smaller units of "schools within schools." Gifted students should be served; remedial programs should be provided. Every school should provide for re-entry on a part-time or full-time basis for dropouts;

10. Principals should be better prepared, and should have more control over their own budgets, selection and reward of teachers;

11. High schools must be connected with other levels of education and the community. Recommendations are made about school-college coordination panels, "university in the school" programs, credit by examination, early admission/advance placement, and partnerships between colleges and high schools. Businesses should provide help for disadvantaged students through volunteer tutorial and family counseling service, and support special school and part-time apprenticeship experience of high-risk students. Businesses should provide enrichment programs for gifted students, especially those in science and mathematics, and for those in the new technologies. Businesses should provide cash awards for outstanding teachers. Corporate grants should provide sabbaticals to outstanding principals and a discretionary fund for principals to work with teachers on creative programs, and

12. To develop community commitment, parent-teacher-student advisory councils should be established at all schools. Further, a parent volunteer program should be organized to tutor students, provide teacher aides, and other administrative, counseling, and clerical support. In addition, community coalitions should be formed to give leadership to the advocacy of support for public education. The states should recognize that their overriding responsibility to the schools is to establish general standards and to provide fiscal support.

6.
Education and Economic Progress: Toward a National Education Policy

Chairmen: J. Hunt and D. Hamburg

Dramatic improvement in educational quality is needed to meet the demands of a technological economy highly dependent upon educated men and women. Yet, the nation lacks a cohesive educational policy linked to economic progress. National leadership for a sustained period of time is essential to "keep the nation's feet to the fire" for educational improvement. Legislation should be initiated at the federal level to strengthen education on a number of fronts. The economic challenge from Japan and other countries is the modern Sputnik, a powerful lever for the reform and support of education. Present economic challenge is more profound than Sputnik and as fundamental as the change from an agrarian to an industrial economy 100 years ago. Education must move to the top of the agenda if the nation is to prosper. Though the present emphasis should be upon mathematics, science, engineering, and foreign languages, the need exists for qualitative improvement across the full spectrum of the humanities and social sciences. Federal legislation is required because the states and private sector cannot meet these pressing needs alone. The report emphasizes that a "general scientific literacy for citizenship" is just as important to the future of the nation as the production of high-level experts. It foresees additional courses in math and science for all students, as well as a more demanding curriculum for the talented. Special attention must be given to racial minorities and women who are underrepresented in the scientific and technical fields. Foreign languages enrollment must increase. The school mathematics curriculum needs major revision to adjust to the advent of calculators and computers.

Recommendations:

Federal legislation for education should be established with these guidelines:

1. Improve mathematical and scientific literacy for the general population and develop high-level skills, including foreign language skills, among the most talented;

2. Include three levels of education in a comprehensive approach: schools, colleges, and adult retraining;

3. Build on state and local initiatives;

4. Encourage partnerships among business/labor, education and government;

5. Support both good programs already in operation and new programs aimed at reform;

6. Emphasize talent development among minorities and women;

7. Enlist the best scientific minds of the nation to work on school and college curriculum projects as well as teacher training, and

8. Recognize the dignity and worth of school and college teachers.

7.
<u>Academic Preparation for College: What</u>
<u>Students Need to Know and Be Able to Do</u>

Chairman: G. Hanford

This report focuses on identifying the knowledge and skills which college entrants need to know and be able to do in order to be adequately prepared for college-level study. It describes what they need to learn in six Basic Academic Subjects that provide the specific knowledge and skills on which college-level study is based. These include English, the arts, mathematics, science, social studies, and foreign language. The report also describes what students need to learn in six Basic Academic Competencies that are general skills necessary for effective work in all subjects. These are reading, writing, speaking and listening, mathematics, reasoning and studying. Finally, the report discusses the newly emerging need for computer competency.

Recommendations:

1. High school students, parents, secondary school educators, college and university officials, and policy makers should use the recommendations to understand and support adequate preparation for college;

2. Schools must focus upon learning outcomes--the skills and knowledge most likely to allow a student to succeed in college. High school students planning on college should achieve these outcomes during high school;

3. The basic academic competencies necessary to achieve are reading, writing, speaking and listening, mathematics, reasoning, and study skills. These competencies are the broad intellectual skills essential to effective work in all fields of college study. They provide a link across the disciplines of knowledge. The basic academic competencies are developed abilities, the outcomes of learning;

4. Students should have a basic knowledge of the capabilities of a computer, and some ability to use the computer with appropriate software for self-instruction, retrieval of information, word processing, simulations, and problem solving, and

5. The basic academic subjects provide the detailed knowledge and skills necessary for effective work in college. These subjects include English, science, mathematics, social science, foreign languages, and the arts.

8.
School and College - Partnerships
in Education

Carnegie Foundation

This report describes some of the significant programs that strengthen the linkages between colleges and schools. The report acknowledges that its demand for collaborative programs places a special burden on higher education. "The nation's colleges and universities must resist the inclination toward aloofness, and in tangible ways affirm the essentialness of the nation's schools."

Chapters II through VII each focus on a particular type of objective which has been pursued by successful collaboration projects. Each chapter describes several projects and the need for further collaborative efforts toward achieving the desired objective. Below is a brief summary of the ideas presented in each chapter.

Chapter II: Setting Standards - High schools and colleges should join together to determine the content and specific skills considered essential requirements for entrance into college. Recommends that all states establish a school- college panel to allow educators at both levels to agree on the core of education and to develop a school-college curriculum that provides both continuity and coherence. Suggests that "it is not unreasonable to expect that every college and university not only establish clear and reasonable standards for admission but also report back to secondary schools regarding the academic performance of their graduates."

Chapter III: Accelerating Students - Colleges and schools should work together to overcome the "tyranny of time" by enriching the high school curriculum and/or allowing students to move through the curriculum at a speed more appropriate to their ability. Suggests that, increasingly, students should be free to move at their own pace to make more flexible the transition from school to college.

Chapter IV: Preparing Teachers - Programs for beginning teachers and for senior teachers should be collaboratively developed by colleges and schools in order to improve the quality of teaching in public schools. New school-college partnerships are required which will (a) raise teacher-training standards, by increasing the quality of candidates entering teaching and by improving preparation for training, and (b) provide for higher education to share its resources and expertise with elementary and secondary schools.

Chapter V. Blends: Experiments in Transition - Experimental transition schools should be established that combine the school-college years and avoid curricular overlap and duplication. Suggests the need for a "reorientation that allows high school and college to share some pathways" by developing interconnecting programs.

Chapter VI: Minorities: A Shared Mandate - Collaboration is urgently required to identify disadvantaged students at an early age and to provide the ongoing help they need as they make the transition from school to college. Suggests that cooperative programs can help avert the "educational disaster that has foreclosed the future for all too many" deprived children.

Chapter VII: Special Models - Every college and university should establish a partnership with one or more school districts to provide educational and cultural enrichment as determined by principals and teachers at the school. Highlights the wide variety of programs that can be promoted when schools and colleges agree to share facilities, teachers, and services.

Recommendations

From the description of successful school-college collaborations, five basic principles emerge that must be followed if collaborative projects are to succeed:

1. A common agenda must be acknowledged by educators at both levels (the educators must agree that they have common problems);

2. The traditional academic "pecking order" must be replaced by a true spirit of cooperation. Teachers and administrators in the public schools must be full partners in the process of planning and implementing cooperative programs;

3. Cooperative projects must be sharply focused, with a single project identified;

4. Those who participate in school-college cooperative programs must be adequately recognized and rewarded, and

5. The focus must be on cooperative activities, not on "machinery" (administrative/bureaucratic concerns).

9.
A Celebration of Teaching: High Schools in the 1980s

Chairman: T. Sizer

A Study of High Schools, to be published in early winter, 1983, will include three publications:

    a. A Celebration of Teaching which focuses upon the student-teacher-content triangle in classrooms;

    b. A historical survey which describes the changes taking place in American society and in American high schools from the James Conant report, 1958, to the present, and

    c. An analysis of 15 public and private high schools in five states upon which extensive field research was conducted during 1981-1982 under the direction of Arthur G. Powell. The first volume, A Celebration of Teaching, explores the conditions and components required for effective student learning, and it urges renewed public attention to the importance of teaching in high schools.

Americans underrate teaching. We also underrate teachers. The craft of keeping school is a subtle business requiring special sorts of devoted and able practitioners, a notion far from the consciousness of most Americans. Currently, schools are burdened by a hierarchical, complex, central bureaucracy resulting from the era of "scientific management." This heavy mantle stifles the effectiveness of teachers, school by school. Americans must restore to individual schools the lion's share of responsibility for education.

Recommendations:

The recommendations from A Study of High Schools suggest that secondary education must be reshaped into "Essential Schools." The elements of an essential school are:

1. The ultimate ends of schooling are established by central authorities, but the detailed design for teaching and learning must be firmly in the hands of teachers and principals;

2. Strong incentives must be established to encourage students to learn and teachers to teach, and these will vary school by school;

3. Emphasis must be on quality of thought, with the traditional subject disciplines clustered into a few areas;

4. Students will assume considerable responsibility for their own education, as well as for some routine clerical and custodial jobs to keep the school operating;

5. Diplomas are awarded only upon the mastery of defined skills and knowledge;

6. Ethical values such as fairness and tolerance will be consciously a part of the school, and

7. Per-pupil expenditure will not exceed that of conventional schools.

Appendix B

School-Site or School Based Management

School-site or school-based management is an effort designed to implement decentralization, deregulation for the purpose improving the educational environment of the school. In this model, management and operational responsibility for the school is delegated to the principal, staff, parents and business representatives of the community. The focus is upon responsibility and accountability for learning outcomes and the building of partnerships through shared decision-making.

This model first discussed in 1983, is currently being tested in five school districts of the state (Hopkins, Robbinsdale, Rochester, Rosemount and St. Louis Park) under sponsorship of the Northwest area Foundation. Six components of the model, as identified for the Susan Lindgren Intermediate Center in St. Louis Park, are:

1. *Shared decision-making in school policy and program involving meaningful input by teachers, parents and community.*

2. *Decentralized decision-making power, in which the stakeholders in the local school (teacher, parents, non-parents, administrators) work as a team to design curriculum, choose resources and set educational policy.*

3. *Decentralized budgeting, in which the local school, under the guidance of the on-site project management team, has total control of its annual budget.*

4. *Implementation of a merit pay system for teachers, in which teachers who promote educational gains consistent with project purposes receive salary increases.*

5. *Assignment of budgetary resources for staff development.*

6. *Creation of organizational arrangements and delivery systems that accommodate individual differences in teaching and learning styles.*

To accomplish this task in St. Louis Park, a broadly based School Site Council of 13 members has been established. Features of the school are:

1. *The school is decentralized and deregulated.*

2. *Responsibility for operation of the school rests with a 13 member school-site management council. This group is broadly based and representative of administrators, teachers and parents.*

3. *Reporting to the Council are five advisory committees each of which is also broad based in composition:*

   A. *Budget Advisory Committee*

      Has complete responsibility for a building budget of $1,200,000. No major central office involvement.

   B. *Curriculum Development and Professional Competency*

      Responsible for scope and sequence of curriculum (e.g. math this year and reading next). Have established some system of electives. Next Fall will have a responsibility-incentive-merit pay plan in effect. Teachers who volunteer could go - $5,000 for performance. Evaluation by Principal and peers (Northfield Model).

C. *Delivery System*

*Responsible for organizational pattern of the school. School
day extended to before and after normal hours. How many
students should be in building at one time?*

D. *Staff Development and Selection*

*Responsible for teaching learning styles, for determination
of need for certificated and non-certificated staff, and
for staff in-service program.*

E. *Evaluation*

Responsible for evaluation of student achievement and for staffholder.

*This school building has a differentiated staff in that team leaders are released
part of each day to work on curriculum and staff matters. They have established
a communications lab for students and have a technology aide. A one-fourth
time person is responsible for staff development.*

*The school has a budget which is comparable to other schools of the district
but the management council has full choice as to how the money ought to be
expended. Since the school has just completed its first year in this pilot
effort, no evaluation results are yet known.*

Appendix C

MINNESOTA ARTS EDUCATION TASK FORCE

Mission Statement

The Minnesota School of the Arts is a school for the visual, performing and literary arts. As a statewide, independent public institution, its purpose is to provide expanded opportunities in the creative and interpretive arts for the gifted and talented youth of Minnesota. With a strong emphasis on artistic excellence and high academic standards, it will serve as a resource center for other Minnesota schools and arts institutions.

Objectives

1. To serve as a model for excellence in arts education.

2. To have a strong outreach program to all Minnesota schools.

3. To encourage and support the creative growth and vitality of the human spirit.

4. To provide a dynamic environment for the development of the gifted student's artistic talent, intellectual abilities, human character and their interrelationship to the broader community.

5. To enhance the student's ability to engage in the creative process.

6. To provide a potential training ground and support system to professionals in the arts field.

7. To interact with arts institutions and community organizations.

Appendix D

School Effectiveness

The school effectiveness model of institutional change concentrates upon the
influences of the principal and teacher with whom the student has direct
contact in the educational process. As proposed by the Minnesota Department
of Education in its A Comprehensive Plan for School Effectiveness publication:

> Educational researchers are presenting a broad framework to guide
> improvement efforts in our schools. They have shown that:
>
> - The allocation of time is directly related to what students
>   learn.
> - Student engagement rates in instructional tasks can be higher.
> - Systematic instruction results in student mastery of basic
>   skill areas.
> - Schools need to provide a supportive climate which assures the
>   safety of students and teachers and creates an aura which
>   communicates the importance of school work.
> - The goal of the school must be clearly communicated to all members
>   of the school community.
> - The school must set high expectations for all.
> - The critical elements of teaching and instruction must be carefully
>   monitored.
>
> Once the framework of an effective school is identified the much more
> complex task of implementing the characteristics begins. The research
> on change provides many insights into this complex process.
>
> - Systematic planning and monitoring are important in the change process.
> - Leadership and team work are essential.
> - Staff and parent involvement needs to be carefully designed to assure
>   ownership and commitment.
> - The change process must contain benchmark points by which the change
>   can be measured.

The publication synthesized this research by describing effective school
characteristics.

> In order to be effective in promoting the academic, vocational, social/civic,
> and personal development of students, schools should demonstrate all of the
> following characteristics:
>
> 1. Clearly defined goals and expectations related to student achievement.
>
> 2. Building-level leadership that encourages and monitors progress toward
>   the goals and expectations.
>
> 3. School climate which supports and reinforces the pursuit of the goals
>   and expectations.
>
> 4. School-site management with considerable autonomy in determining the
>   exact means by which the goals and expectations are to be met.
>
> 5. Curriculum articulation and organization with appropriate time devoted
>   to planned, purposeful instruction focused on the desired outcomes and
>   coordinated accross grade levels.
>
> 6. A building-level staff development program directed toward school-wide
>   goals and closely related to the instructional program of the school.
>
> 7. Collaborative planning and collegial relationships among staff and
>   administration at building level.

8. *Parental involvement in their child's education and parental support of the goals and expectations of the school.*

9. *Teacher-designed instruction that maximizes substantive learning time, monitors student progress, and gives regular feedback to students regarding progress.*

10. *District-level support for building-level management of improvement efforts.*

11. *High expectations commonly shared for the performance of staff, administrators, and students.*

12. *Order and discipline communicating the seriousness and purposefulness with which the school takes its tasks.*

13. *Cooperative group learning emphasized.*

14. *Multiability groups of students organized for majority of instructional day.*

15. *Positive teacher-student interaction.*

A total of $350,000 was appropriated by the 1983 Legislature to test this concept. after awareness sessions and upon application of school districts, 26 schools were selected in the Spring of 1984 for inclusion in the test program. Since the program had barely begun at time of this writing, no appraisal of result is yet possible.

Independent School District No. 31 - Bemidji, Minnesota
Curriculum Development Model

During February and March of 1980, 15 faculty committees representing every grade and subject taught in the Bemidji Public Schools drew up a set of proposed instructional objectives. From April, 1980 to June, 1981, proposed instructional objectives were refined by said committees. The 15 faculty committees (Physical Education, Health/Safety, Library, English-Language Arts/Reading, Science, Music, Mathematics, Drivers Education, Art, Social Studies, Foreign Languages, Special Education/Developmentally Handicapped, Guidance, Vocational Education and Kindergarten) were chaired by administrators or appointed teachers, and assisted by representatives of the administrative staff and by dozens of teachers who were not official committee members. During the initial stages of the curriculum project, ISD 31 was striving for excellence by eliciting and maximizing the use of the collective intellectual abilities, talents and cooperation of everyone in the school community.

The objectives have a number of noteworthy characteristics:

1. They contain the knowledge, skills and attitudes students will learn (predicted learner outcomes).

2. They deal solely with student learning rather than the teaching methods or materials or evaluation techniques.

3. They are proposed as what the average student will learn, rather than what all students will learn. (Average is defined from the 25th to 75th percentile).

4. They are the new learnings in each grade or course and do not include any objectives taught previously which are reviewed or re-taught in that grade or course.

5. They include some objectives which the faculty proposed to teach in the future if sufficient staff and suitable facilities become available.

The proposed curriculum objectives were submitted to the Board of Education in August, 1982; distributed district-wide during the 1982-83 school year; and implemented in September, 1983. The total curriculum is available for inspection by any interested agency.

The district curriculum test questions for evaluating of the objectives were written by the teachers of ISD 31.

Test questions were available in compiled test forms in the fall of 1983, hence, the district was able to create a pre- and post-test situation during the 1983-84 school year.

This curriculum development is the sole function of ISD #31. However, the Minnesota State Department of Education has lauded District 31 for its foresight and efforts in developing a total K-12 learner outcome package. District 31 has willingly shared its achievements with other public school districts throughout the state of Minnesota.

Continued Implementation of the Curriculum Project for ISD 31

ISD 31 is currently involved in the ongoing evaluation component of its curriculum project. This phase has been dubbed Project C.U.R.E. (Curriculum Update, Refinement and Editing). Project C.U.R.E. is comprised of and focuses on the following components; curriculum objectives, test questions, testing outcomes and review, textbook review/textbook adoption, materials selection and computerization of the test questions for curriculum objectives.

In September, 1983, the administration devised a curriculum organization chart (see attachment #2) as it established the District Instructional Council. The District Instructional Council will be responsible for the continued implementation of Project C.U.R.E. commencing in the fall of 1984. Specifically, the Instructional council will:

A. Be comprised of board members, teachers parents and administration.

B. Decide how the self-study sub-committee will be selected (five people on each committee).

C. Manage the ongoing curriculum evaluation activities.

D. Refine the evaluation process.

E. Assess the effectiveness of the evaluation plan.

F. Decide what evidence the sub-committees must consider as they review the district-wide curriculum testing results.

G. Establish a set of procedures which explain how the implementation of evaluation results will occur and be monitored.

H. Decide the format for presenting evaluation findings.

During the 1984-85 school year, the district will collect a second year of curriculum objectives pilot-testing data. Based on 1) current testing results, 2) feedback from district instructional staff which has been compiled after each pilot-testing situation, and 3) administrative feedback, the district foresees the need to provide a summer option in order to productively and expediently maintain Project C.U.R.E. Specifically, ISD 31 is requesting special Block Grant funding so that Project C.U.R.E. can focus on the following three components in June, 1985: 1) Refine existing curriculum objectives K-12, 2) to refine and edit existing curriculum objectives test questions K-12, and 3) to expand the existing supply of test questions K-12.

The updated and refined objectives, edited test questions and newly generated test questions will be incorporated into the total curriculum and subject to the continuous cycle of curriculum evaluation.

Appendix F

Progressive School Model

In 1972, The Minnesota Experimental City (MXC) was cited as one approach to a major institutional change. While the MXC concept is no longer in current thinking, the educational system proposed was and is quite innovative. This concept, as identified on the attached pages:

1. Emphasis is placed upon learning by the individual.

2. Technology was seen as a prime medium of attainment of knowledge (they even opined that by 1985 computers might be so economical that people could possibly have them in their homes!).

3. Learning space is much broader than the confines of a school building.

4. Learning is life long -- they propose ages 0 - 99.

A Cautionary Note

The city is its people. There have been many attempts to describe
and create utopias; few have lived in them for long. Translating the
vision of a new design, whether for a learning system, a city, or a society,
into a form that can approximate the ideal requires an attentive ear that
can hear the concerns of the people who will live and work there. A design
will be carried out not because it is imaginative and innovative, but
because it is sensible, practical, and workable. That a daring new approach
may also be eminently sensible, and even economical, is not always immediately
apparent. The planners and implementers of the new city will have to
be educators and salesmen who can learn and "buy ideas" from people who
will live in the new city as well as teach and sell the challenging concepts
that will bring the city into being.

The temptation is great to gather together and present in one package
all the educational innovation of the last twenty years in curriculum
reform, cognitive learning, behavior modification, audio-visual aids,·
to mention a few, and add to them the thoughts of imaginative technologists
and long-range thinkers who dazzle us with future possibilities. We have
resisted that temptation. We have resisted it because we believe learning
has always taken place in many different ways at all ages and in all places.
No one model of education or learning will suffice. Yesterday's fad becomes
today's anathema. Attractive as is the rhetoric and sometimes the practice
of unstructured education, the strength of traditional practices cannot
be overlooked. Even as we perfect the new, we cannot neglet the old.

The controversy engendered by open education--often taken to mean
free, informal, and unstructured education--is a case in point. Its supporters
assume that:

1. Active learning, which rests on inquiry, is better than passive
    rote; ·

2. Teaching should be personalized to reflect the endless differences of children;

3. The learning environment should be rich and varied;

4. Feelings have a place in the classroom;

5. Children are desirous and capable of learning.

Such assumptions imply a basic trust in children. The teacher allies himself with the child and becomes a resourceful supporter and facilitator.

The detractors of open education assert that many children are bored in the open classroom, score poorly on certain parts of standardized national tests, are ill-prepared for life in that individual development is stressed at the expense of social development. They cite further drawbacks:

1. The abdication of the teacher;

2. Difficulty of assessment because of too general goals;

3. Lack of learning sequence and progression;

4. Contrived nature of the open classroom.

This controversy is a modern version of the older traditional-versus-progressive school debate. There is really no need to take an either-or position. Rather, a synthesis might be in order that would include:

1. Measures of assessment that both teachers and students could use for reassurance about their intellectual and behavioral development;

2. Materials and curriculums that stress social and civic responsibility as well as individual development;

3. Teacher training programs which enable teachers to become leaders and formulators as well as facilitators and resource persons.

The design of alternative educational systems needs only to reflect the new in part; surely not to the abandonment of what has worked in the past. Both traditional and progressive school systems have worked well for some segments of society. Part of the charge to the design team will be to carefully weave this wisdom into the fabric of the experimental city's educational system.

Goals of Urban Education

The dimensions of the task are vast: to design an educational system that will use the city itself as a laboratory and a resource; supply, in turn, well-trained and resourceful manpower for the city; and provide, as well, the opportunity for self-realization through education to all interested citizens. At a time when the Tragedy of the Decaying Cities is headlined *(New York Times, April 2, 1972)*, it is particularly important to demonstrate that central-city ills can be avoided. Granted, it is harder to cure these ills--as those involved with urban renewal have found out--than to avoid them, a model of a large city whose systems work would be invaluable. The educational system, as we have noted before, is central to such functioning.

What then should be the goals for an urban educative system? We propose the following:

1. To supply the needed personnel for the city's growth and development.

    Schools, at present, continue to add significantly to the pool of undertrained, unemployable youth. They provide only limited services designed to retrain adults for changing employment opportunities. Education for citizenship and for active participation in city governance, moreover, has virtually disappeared from school curriculums, yet development of a new city, as well as redevelopment of the urban core elsewhere, will depend for its success upon the civic competence of its citizens, young and old.

2. To adapt and exploit the best available technology.

With relatively minor exceptions, instructional technology in
urban school systems is largely antiquated, meeting neither
institutional nor individual needs. Industrial-based, skill
development programs often employ more effective technologies
than those used in the formal school system. Few teachers have
been trained to use modern instructional techniques and hardware
even when available. Standard classroom practice in the use of
technologies that have led to learning break-throughs elsewhere
lags ten to thirty years behind.

3. To develop new management capability.

Urban school systems invest negligible amounts in new product
or process development. Moreover, they tend to operate without
objective information on major aspects of school operations
and development. Planning too often has been limited to matters
of logistics, and evaluation ignored as a development tool. A
new kind of management capability must be fostered; one that is
based on understanding of structure, systems, and technology.
Such management skill could then assess institutional and
individual needs in detail, for designing, developing, testing,
installing, evaluating, and replicating relevant and potentially
effective educational practices on a continuous basis.

4. To respond to the diverse needs of individual citizens.

Students currently in city school systems suffer from curriculums
that permit only a limited number of choices. Marking systems
tend to guarantee success for certain classes of students and
failure for others. Instructional practices essentially are
teacher-directed and group-oriented. The large number of drop-
outs include, increasingly, children of affluent as well as poor
families. Out-of-school activities often are seen as more
relevant than school programs to personal development. However,
the population of school age represents only a part of the
market for education. The need for training, retraining,
continuing education, and avocational enrichment affects many
sectors of the population.

5. To generate instructional and related personnel precisely in accordance with changes in educational technology.

   Many urban systems have abrogated their responsibilities for staff redevelopment or have accepted programs developed principally by colleges and universities, with all the attendant academic clichés. A new level of local training, which will attempt to tailor the supply to the city's manpower needs, will be required of the urban educational system. New training programs should be developed that are free of the constraints and conventions of the academic institutions.

6. Above all else, to enable the city itself to function as an educative system, with its various institutions and citizens substantially engaged both as teachers and learners in organized educational endeavors.

The Importance of Educational Technology

Since technology in the new city will draw heavily on technological resources in its total-systems approach to planning, it will be worthwhile to examine how technology can further learning. The present-day information explosion will not lessen with time. The problem is and will continue to be how to digest, catalog, and retrieve the vast amount of factual information in almost any discipline.

Development of the computer as a random-access storage and retrieval tool promises to provide the means to handle vast quantities of information and thereby create a new industry: the information services industry. Business analysts tell us the potential of the computer in this field has hardly been realized. Computerized libraries and files should take on significance for scholars, researchers in all disciplines, business analysts and forecasters, professional people such as doctors and lawyers, and social service providers.

Some potential roles of information services in MXC now under consideration can be summarized as follows:

- • Commercial and institutional bibliographies:

  - MXC as a location for development of software and proving ground for applications

  - MXC as a clearinghouse for social science information and social research center

- • Public market information services:

  - MXC as a trial market and proving ground for microform publications

  - MXC as a trial market and proving ground for video cassettes

  - MXC as a location for publication of regional and other special interest publications

  - MXC as a location for production of low-budget and experimental video cassette programs.

The application of information services and new communications technology to provide opportunities for new forms of teaching and learning takes on several dimensions.

The use of video cassettes and microform equipment will make it possible to get information, the raw material of education, to the learner who will not be confined to a particular location at a particular time to listen to a lecture. The widespread application of teaching machines and other advanced techniques should follow the pattern which has emerged to date.

The great potential of these educational techniques, however, lies in their ability to break the institutional pattern which has made it difficult for many to gain access to education and training. A possible pattern for this breakout would be the development of community learning

centers open to the public where those who wish could take specific courses
at times to meet their needs. An open university, national in scope,
has béen established in England with full accreditation. A faculty located
at the university teaches courses to students all over England on three
channels of BBC. One channel is devoted to regular course instruction,
another to intensive instruction on that subject, another to an abbreviated
version. This concept, subject to substantial refinement available through
advanced communications technology, has great potential for application
to the MXC educational system on a citywide and regional basis.

Our research into educational services as a commercial enterprise
leads us to express some caution. When computer technology advances to
the stage when services will be economically available to the private
citizen, education services can move from the institution fully into the
home. Whether such advances--not in technology but in production which
cuts unit costs to levels most private citizens can afford--will occur
by 1985 is not clear yet. Certainly some decentralization to community
learning centers and use of automated techniques in schools will be feasible
on a large scale before the end of this decade.

Companies in the following existing industries either have entered
the field or are highly logical candidates: publishing (books and periodicals);
computers; broadcasting (cable TV); service conglomerates. These are
all industries judged in our economic base study as having growth and
innovative potential, preferring to locate near a university and similar
industries, and having base production characteristics compatible with
candidate sites for the new city.

would be achieved by a few full-time administrative people, who would serve only for a year or two, and could be selected from and by the total community of learners.

We assume that one function, full-time roles for teachers, will be discouraged except for a few talented people. A number of conditions mitigate against it. First, since the system is accountable to the learner as he tries to reach his learning objectives, any resource person is evaluated· on his effectiveness in helping him do so. Second, since the resource person has no authority over the learner, the learner cannot be forced to study or even stay with him. Third, since all learning resources and activities are evaluated, the learner can avoid expert resource persons who do not meet his learning needs.

Learning Objectives. Learning objectives are what one wants to learn. The purposes of the objectives are threefold:

1. To help the learner identify what he wants to learn;

2. To provide a means for assessing the learning resources and activities;

3. To provide a basis for helping the learner decide whether he has learned what he wanted to learn.

The learner has access to many different levels of objectives, from the general "learn something about art" to the specific "seven principles of good composition". The bank of objectives will include a wide range and will be open so that learners may add their own to such objectives as:

- Learning to overhaul an engine

- Designing eco-systems

- Increasing honesty in one's interaction with others

- Perceiving the culture as a Martian might

- Controlling one's metabolism and brain waves

Learning Resources and Activities. The learner meets his objectives through three types of vehicles:

1. People resources--persons willing to share their knowledge and skills;

2. Tool resources--raw materials and equipment which form the basis of a learning experience (potter's wheels, cameras, balances);

3. Activity resources--a range of experiences using communications media and MXC facilities (films, simulations, games).

Learning Spaces. The Minnesota Experimental City will be the primary learning laboratory of the educational system. The city will, by definition, be a purposefully designed learning society. Every system and component within its environment will be a source of instruction for its citizens. Learning thus will take place throughout the city--in homes, businesses, industries, public facilities, open areas, learning system centers, and the world beyond MXC. Learning spaces and the kind of resources located therein will afford great variety:

- *Home:* a person's residence could serve as his main facility. Many homes will have terminal access to the computer or the video network to receive information about learning activities and resources. In addition, homes should be equipped with a device, probably a video-telephone, to provide at least two-way communication.

- *MXC Businesses and Industries:* these facilities should be designed as working/learning laboratories so that learners have direct or indirect access to persons, processes and products.

- *Public Facilities:* hospitals, theaters (with practice rooms and studios), cinemas, observatories, government buildings should be closely linked with the learning system.

- *Open Areas:* basic to the design of the new city will be open areas of undisturbed land, forests, and lakes, with easy access for water activities, farming, walking in the woods, games, and geological and biological exploration. Conservation of the lands as well as aesthetic considerations will be major thrusts in the overall use of land.

Learning System Centers. The city will provide facilities designed to coordinate and provide information about learning opportunities in MXC, and provide certain specialized learning activities. Types of possible learning centers include:

- *Beginning Life Centers* to provide the child under six years of age with a creative environment/learning experience, and to give parents and older children the opportunity to learn about the physical and spiritual needs of the young;

- A *Stimulus Center* to furnish a changing, varied array of stimuli to bombard, provoke, pacify and extend the learner's capacities;

- A *Gaming Center* to simulate design and various gaming techniques. These new forms of intellectual technology, such as synergetics, cross-matrix projections, and delphi methods enhance one's ability to deal with real situations. Mapping rooms, computer animation equipment and other systems-modeling tools will be among the facilities in the center.

- *Project Centers* to focus on community and world problem-solving, such as building a spaceship, finding food substitutes, and researching new economic models.

- *Interaction Centers* to provide for individual growth through group interaction.

The DOR Center

Because the new city is dedicated to examining ways of educating, exploring the critical unknown of effective learning environments, nurturing a spirit of inquiry among all persons associated with the system, and opening avenues for diverse learning alternatives, it is a system without doors that close. To a large degree it is anticipated that the success of the educating system, and indeed the city, will depend upon how well new residents will be able to alter the attitudes and perceptions they may bring from their previous community to the new city.

The DOR Center (Disorientation/Orientation/Reorientation Center) which will provide access to and egress from MXC for each resident or visitor, will provide four major services.

1. *New resident services:* Most persons moving into MXC will find themselves disoriented. They may have to unlearn certain responses. Students, for instance, coming from teacher-centered systems may not easily adapt to the freedom of the self-directed learning environment of the city. A new resident will fill out a fact sheet, noting down his skills and interests, and a set of forms with different levels of objectives for which he may list himself as a resource. He also evaluates himself as a learner along cognitive, affective, and psychomotor dimensions.

2. *Visitor service* to accommodate the anticipated large, continuous flow of visitors for whom a number of services--guest, informational, transnational, and facilitational--will be provided.

3. *Prospective resident service* to alert the prospective residents of how their lives will be changed by living in the city. Included in the service will be information about the learning system, job opportunities, housing, and costs.

4. *Old World service:* Leaving MXC will require adjustments just as entering will. Economic, social trends, and living condition data on other cities and regions of the world will be provided for departing residents, as well as a conversion record of credits for transferring learners.

Integrating Learning with Other Systems

Learning will draw upon and become an integral part of other systems. Some examples of demands which the learning system could make on other systems in the new city include:

-- Health: Incorporating programs to keep residents up to date on the best health practices and availability of services through community health centers.

Transportation: To provide ready, safe access to all learning sites by means of flexible responsive transportation network.

Recreation and culture: To make a full range of cultural programs accessible; to create an atmosphere which spawns creativity;

to coordinate recreational and cultural programs and
resources.

Housing: To provide home environments conducive to learning; to make
learning space and facilities available in or near living.
units; to coordinate living/learning environments.

Employment: To provide job placement information and services which
inform interested residents concerning work environments,
skills, and experience requirements for future jobs and
occupations the new city will support.

On the other hand, the close integration of learning into other systems
will have impact on the operations and effectiveness of these systems.
Some impacts might be:

Health: More use of health services as a consequence of better
information and access to these services; more importance
placed on preventive health practices than medical services.

Transportation: Increased use of transportation services as trans-
portation becomes more directly related to specific needs
and specific means for individuals to obtain immediate
responses to these needs.

Recreation and culture: Increased awareness of leisure time op-
portunities and the importance of safeguarding natural
resources for leisure time fulfillment.

Housing: Increased awareness of the importance of living units as
opportunities to be the center of learning; and consequently,
the need to design and maintain space within living units
more attuned to learning opportunities they provide.

Employment: More effective means for people to find jobs they seek
as fulfilling at any specific point in their career de-
velopment.

From the above illustrations of the impact on a learning system
highly integrated into the operations of other services, several patterns
of anticipated effects emerge: increased use of services provided in
these other systems; increased individual awareness of the opportunities
of these other systems as opportunities for learning; and increased opportunities
for those systems to perform more efficiently and effectively in meeting
the goals of any specific system.

Characteristics of MXC Learning System

The system will be constantly changing and dedicated to new ways
of understanding change in a bewildering era. Monitoring and sharing
information on changes happening all over the world, the system will build
ways to understand the nature of change and gear individuals for coping
with it. Understanding change as a constant, the system will easily discard
whatever worked yesterday to try new approaches tomorrow which seem exciting
within its goals.

The system will be based on a continuous, *life-long* approach to learning--
a birth to death system. With education viewed as a primary need, the
system will act as a means to individualistic ends--self-discovery and
the realization of one's potentialities. In this connection, learning
opportunities of the system will be offered on a full-time basis: twenty-
four hours a day, twelve months a year. In no way will the system be
designed simply for the young but for all citizens, to assist all to under-
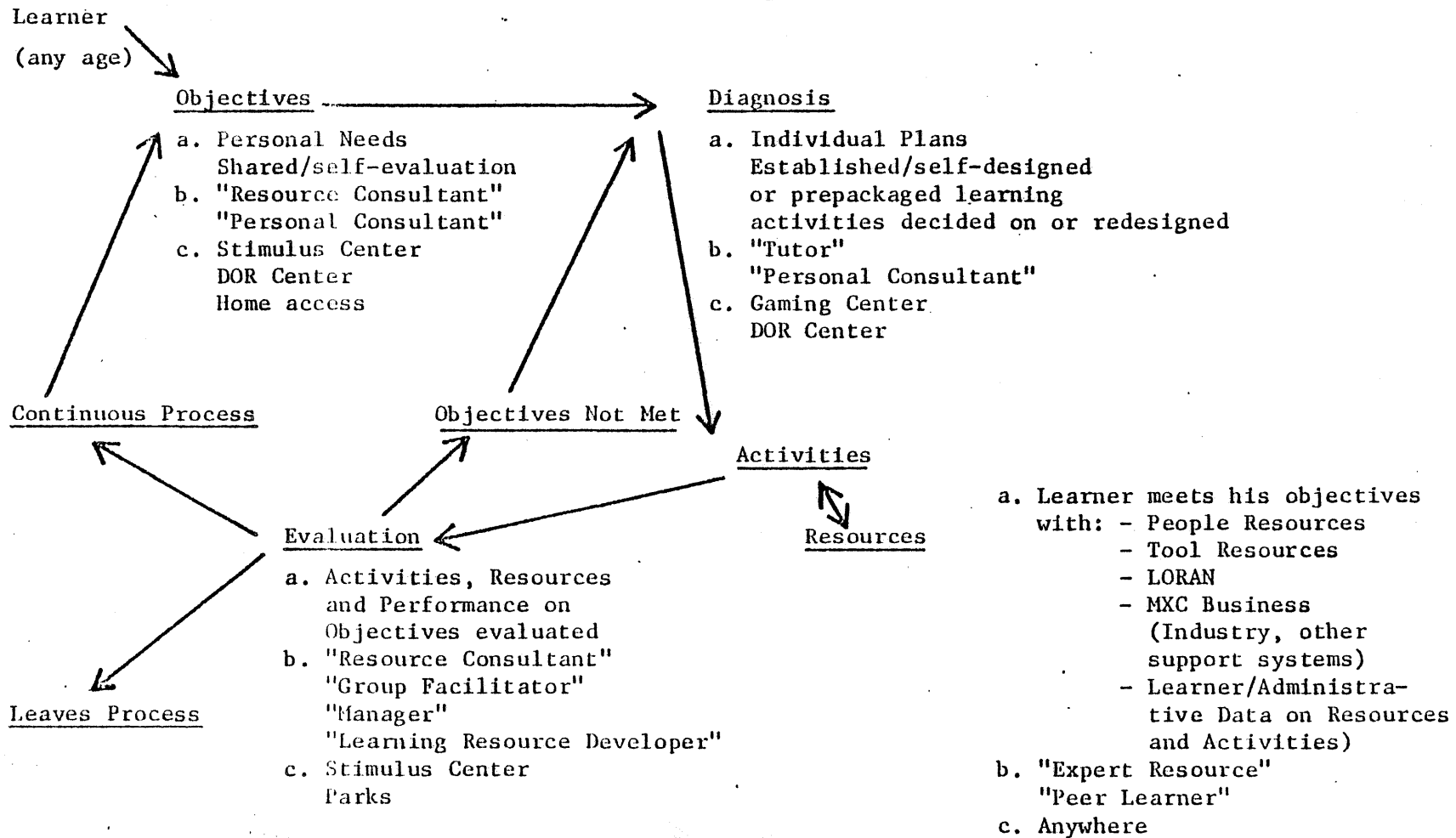stand evolving realities.

The system--centered around the person, based on the learner--will
be affirmatively human in its orientation. It will recognize the uniqueness
of the individual, encourage him to develop as a person on the basis of
his needs, interests and goals, and will attempt to respond in a facilitative
manner to his personal search wherever that may lead him.

Learning will become part of daily living; not as preparation for
living. Rather than educational institutions indicating the spaces in
which learning takes place, learning will be an integral part of all systems--
transportation, health, social services, communication, recreation and
culture, etc.

The learning system will be continuously evolving, changing, adapting itself to the needs of learners and seeking new ways of improving upon its means for responding to learners' demands.

The schema on the following page highlights the concepts and innovative educational ideas discussed in this section and the appendices.

Person-Centered Learning Network in MXC

Learner (any age)

Objectives ⟶ **Diagnosis**

Objectives
a. Personal Needs
Shared/self-evaluation
b. "Resource Consultant"
"Personal Consultant"
c. Stimulus Center
DOR Center
Home access

Diagnosis
a. Individual Plans
Established/self-designed
or prepackaged learning
activities decided on or redesigned
b. "Tutor"
"Personal Consultant"
c. Gaming Center
DOR Center

Continuous Process

Objectives Not Met

Activities

Resources

Evaluation
a. Activities, Resources
and Performance on
Objectives evaluated
b. "Resource Consultant"
"Group Facilitator"
"Manager"
"Learning Resource Developer"
c. Stimulus Center
Parks

Leaves Process

a. Learner meets his objectives
with: – People Resources
– Tool Resources
– LORAN
– MXC Business
(Industry, other
support systems)
– Learner/Administra-
tive Data on Resources
and Activities)
b. "Expert Resource"
"Peer Learner"
c. Anywhere

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a. What/How the learner might use the Learning Network
b. Who the learner might choose to contact in "people
functions" (*i.e.*, one-to-one, dialogue, group
interaction, computer reference)
c. Arbitrary places where things could happen ("chance"
encounters could change the process at any point).

Appendix G

A Laboratory for Learning

The Minnesota 4-H, Public School Incentives, and the Department of Education have collaborated to propose a laboratory for learning model. Some essential elements of the model include:

Personal Education Plan (PEP)

The proposal must provide for the development of Personal Education Plan (PEP) for each student in the program. This PEP will be developed in consultation with the student and parents/guardians (if applicable), based on the student's needs and learning styles. It will state the Learner Outcomes to be met.

The PEP will enable the student to see the sense of the educational program, will build to meet the student's needs, will direct continuing learning needs, and will give the student ownership in his/her education. It will enable recognition of what the student already knows and is capable of accomplishing.

Metropolitan State University as well as the Vocational-Technical Institutions may serve as a model for this process.

Outcome Based Education

This proposal must provide for outcome based education through the development of learner outcomes.

The Educational Leaders must develop learner outcomes, in consultation with teachers in the content area as well as other experts in the discipline, such as Minnesota Department of Education Curriculum Program Specialists and Administrators.

Throughout the learning experience the Educational Leader will monitor and evaluate each student's progress, providing guidance and direction as needed. This requires an efficient and effective record keeping system. Use of micro-computers and appropriate courseware will allow the students and Educational Leaders to see the continuous process of learning as well as serving as a record keeping system.

Upon demonstration of the mastery of the learner outcomes, the Educational Leader recommends granting of credit.

The PEP, the development of learner outcomes, the continuous monitoring and the demonstration of mastery of the learner outcomes will allow the student to know he/she is making progress as well as to maintain high standards of learning. This also permits the student to learn and earn credit on a year round basis whether the learnings are acquired within or without the formal school structure.

"Some Expected Learner Outcomes" (SELOS) for the content areas are an example of learner expectations.

Metro State University awards credit toward graduation upon demonstrated mastery of their defined learner outcomes.

Edina Public Schools, upon a student's application, allows the granting of high school graduation credit for specific out-of-school learning experiences, e.g., private music lessons, that meet their defined curriculum objectives.

Organization of Learning Experiences

The proposal must provide integrated, interrelated educational opportunities. One method would be to build the content around a theme, such as Global Hunger and World Peace. Just as the components of this proposal are interrelated and build to a whole, so must the organization of the learning experiences.

This organization would help to build reality into the learning experience, to develop learner outcomes within a context, to see the relationships between the many components of the PEP and to develop life-long learning skills and attitudes.

Flexibility

This proposal must permit flexible school hours, school year and student attendance. Provision of the option for full-time or part-time participation, perhaps claiming State Aid on a part-time basis, is desirable.

This flexibility is mandatory if the students are to complete their Personal Education Plan and accomplish the learner outcomes through experiential learning and the use of community resources. Many of the learning opportunities are offered through field trips, student exchanges, independent learning, internships and mentor programs.

Most school districts have processes for field trips, student exchanges, et. al, now; thereby, providing a basis for expansion of this flexibility.

Another example is the provision of summer school programs and planned activities over the winter and spring break periods. It is a natural step to incorporate these programs into the total educational program.

To accomplish this, staffing patterns will be changed to allow for the expanded school year and school hours.(See Differentiated Staffing Component).

Organizational Structure of the Student Population

The proposal must provide for continuous progress and early entry/re-entry for students in the program.

To make possible the implementation of the many components of this proposal, the demonstration site must provide flexibility in not only hours and school year, but flexibility within the organizational structure.

Grouping students into three closely linked age groupings (e.g. 9-11, 12-14, 16-19) as recommended by John Goodlad in A Place Called School (pages 323-328), may be an appropriate organization which would allow for continuous progress and easy entry/re-entry. The Educational Leader responsible for a specific age grouping would have knowledge of the developmental as well as learning capabilities of this age group.

Use of Technology

This proposal must include plans for the use of appropriate technology for the expansion and enhancement of learning opportunities.

The use of technology in education is no longer motivational Students expect it; they should have ready access to it. Our emerging information society requires access to information and the ability to synthesize this information for decision making and for presentation to others. Increasing sophistication in the application of technology to learning needs introduces the learner to the larger world outside the immediate community, enables greater individualized learning opportunities for the student and provides a base for life long learning.

The educational leaders and the students must become technologically literate; that is,

- To know the present forms of technology

- To know its appropriate uses

- To understand the interrelationships of different forms of technology e.g., microcomputers with video cassettes or discs

- The ethics of the uses of technology, e.g., copyright ownership versus piracy, the privacy of data files

and to become creative in its usage.

To be effective, technology must be integrated into the learning process. The users direct its use to meet needs, selecting the appropriate courseware and the equipment needed for delivery of information and processes. Electronic communication can bring the outside world into the community.

Several Council on Quality Education grants illustrate the uses of technology in education services:

ɔ The Electronic Blackboard Project - Hill City, Floodwood, McGregor, Carlton School Districts.

ɔ Communicasting for Educational Purposes - Eagle Bend Public Schools

ɔ Computer Video - Osseo Public Schools.

A sample of a technology budget is included in the budget section. (See Minimum Technology Budget and the Accompanying notes.)

Access and Equity

This proposal must serve a spectrum of students, ages 9 to 19. It must provide equal access to all students within the district but students, in cooperative planning with parents/guardian (if appropriate) will choose to enter. The demonstration site will involve parents in knowing what the demonstration program is and why, and in knowing their role as partners in the learning process. It will provide easy exit/re-entry for all students aged 16 or over.

The system must provide due process for all involved: students; teachers, including master teacher if appropriate; other instructional leaders, parents, administrators, other personnel.

Equal access, equity and due process are basic requirements for public education.

Differentiated Staffing

This proposal must provide for differentiated staffing patterns.

Many forces are converging to dictate the need for differentiated staffing patterns.

ɔ The present and coming shortage of teachers

ɔ The need to attract and retain highly capable teaching personnel

ɔ The need to make appropriate use of educational personnel

ɔ The need to develop career ladders for educational personnel

ɔ The increasing number of partnerships with business and industry, community agencies and other educational institutions

APPENDIX H

Since some of the recommendations of this report are very sweeping in nature and because some are already being initiated in some form, exact cost analysis is difficult at best. However to facilitate at least a global estimate of cost, the following has been developed. Funding estimates are matched to the 10 recommendations contained in Section V of this report:

1. *The new state school for the arts is currently in a planning stage under direction of a Legislatively supported committee. Since that committee will issue a separate report with cost estimates, this study makes no cost analysis but rather expresses support for the concept.*

2. *Regional schools of excellence would not require separate buildings since use of existing facilities would be a contingency of site selection. However, additional special staff, materials and equipment would be required at each site. Since no cost saving can be projected for the "home" school district, each site might be expected to cost the state an additional $100,000. Obviously, the total cost to the state is a multiple of this amount by the number of selected sites.*

3. *School effectiveness is currently funded by the Legislature at a level of $350,000 and involves 26 school sites throughout the state. A fuller extension of the model would cost at least $10,000 per site. Total cost to the state is, therefore, a multiple of that amount by the number of sites selected (currently there are about 1,500 operating school buildings in the state).*

4. *"Low cost" is a relative term since any serious staff training activity involves people and people time costs money. At least $1,000,000 should be available annually to the Department of Education for the training function. Even then, this amount would not permit reaching all school staff persons nor would it provide for an intensive level of interactive training. The incentive portion of this recommendation should be funded at not less than $2,000,000 annually to produce a significant impact.*

5. *"High cost" strategies are truly that. A $5,000 per person salary incentive for 45,000 school staff member would cost the state $225,000,000 annually. Extending the school year by one day has been estimated to cost $13,000,000 annually while the addition of one hour of instructional time per day would cost $132,000,000 annually. New program addition in the curriculum would be at little cost if other programs are dropped and technology addition is already underway and needs only to be encouraged within the current framework.*

6. *School based management is costly when first introduced to a school. It has been estimated that about $150,000 per school over a three year period may be necessary in the initial stage but thereafter should operate at little or no additional cost.*

7. *The progressive education model requires a new philosophy both for the school and the community. Start-up costs for each site would be extraordinary because of a severe departure from the existing more traditional model. One estimate suggests that about $250,000 of additional state funds (additional to the funds normally available) per site per year would be necessary to establish the model and this assumes that an equipped existing central facility (school) is available.*

8. *Learner outcomes and mastery based education can be incorporated into a number of institutional configurations. It is estimated that about $500,000 is necessary over a three year period for the Department of Education to develop the statements of learner outcomes, define tests and test use, and give at least preliminary training to school district staff.*

9. *Consistent with item 4 above, training of staff is expensive because of personnel costs. However, "change" is a very difficult goal to attain without opportunity for time and a gaining of skills. Without guidance, most persons will tend to maintain a status quo. This recommendation would require at least $1,000,000 annually in state supported costs.*

10. *The 1984 Legislature appropriated $150,000 to the Council on Quality Education for the purpose of Research and Development. While a beginning, that amount is woefully inadequate for a major effort. This recommendation would request $1,000,000 annually for a comprehensive "R and D" effort which would in turn be supported by the incentive grants recommended in item 4 above.*

The recommendations in this issue paper do not propose any reduction in the current funding level for education. We propose a series of alternatives and opportunities which, over time could markably change the entire state structure for education.