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ABSTRACT

Plans for the fundamental restructuring of Utah elementary-secondary education are described in this report. The plans include a shift in focus from reforming the old system to making systemic changes in order to meet students' needs. The first section outlines the mission, goals, and anticipated outcomes of Utah public education. The second section highlights changing educational patterns in the state from 1800 to1988. Section 3 explains the rationale for the educational shift in focus, in which excellence is created by meeting students' needs and helping them to internalize learned information. The fourth section compares the specifics of a student-focused system with the industrial-model school in the areas of participant roles, instructional approach and scheduling, and testing/evaluation. The first steps for adopting a set of student-focused outcomes are described in the fifth section. The final section stresses the belief that restructuring around a student-focused approach can produce a wise use of human resources and requires statewide commitment. One figure is included. Appendices contain strategies for resource allocation and suggested activities for achieving student-focused goals. (LMI)

A Shift in Focus

To Empower Utah's Children to Function Effectively in the Society in Which They Will Live

A Report
by the
Strategic Planning Commission

November 1988

UTAH STATE OFFICE
OF EDUCATION

James R. Moss
State Superintendent of Public Instruction

March 3, 1989

This document, **A Shift In Focus**, is a report by the Strategic Planning Commission and represents over a year and a half of planning. In accepting the work of the Commission, the State Board of Education is anxious to receive feedback on the document from all areas of education and the public.

A Shift In Focus invites educators, business, parents, legislators and others to meet the challenges of the future by focusing on one significant mission--that of empowering each child to function effectively in the society in which they will live. It is not a program, but it is a philosophy which bears close examination.

Please review the document as soon as possible and forward your feelings and thoughts to:

The Strategic Planning Commission
c/o The Utah State Board of Education
250 East 500 South
Salt Lake City, Utah 84111

Sincerely,

Ruth Hardy Funk

Ruth Hardy Funk
Chairman
Utah State Board of Education

/tb

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If Utah schools are to meet the challenges coming in the future they must be backed by a statewide consensus of commitment to success. Parents, businesses, teachers, administrators, legislators, community leaders, and the students themselves must put aside whatever else divides them, put away their pessimism, and focus together on the only educational goal that matters—empowering our children to function effectively in the society in which they will live.

Background:

The Utah State Board of Education appointed the Strategic Planning Commission in mid-1987 and established a liaison committee to work with the group. Board members who served on this committee were Ruth Hardy Funk, John Covey, and Richard Maxfield, who attended Commission meetings and participated in both the discussions and the drafting sessions. These committee members reported to the total board on a regular basis, and several interim reports were made to the board by the Commission chairman prior to submission of this final draft.

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By Way of Introduction

Schools both reflect and influence society. During the past several years, Utah's schools have been changing—because Utah itself is changing, with the nation and the world, at a rapid pace.

Significant educational reform began in Utah about five years ago. Those responsible for education—the governor, Utah's legislature, the State Board of Education, teachers, local school districts, universities and colleges, and citizens throughout the state—pushed for changes that would provide students with the type of education needed for a successful life.

The initial beginnings of the reform were founded in such things as a new **State Core Curriculum**, more vigorous **Graduation Requirements**, increased **Instructional Productivity**, a statewide **Career Ladder System**, a **Principals Academy** to strengthen instruction/curriculum management, a more effective **Use of School Buildings**, new **Concurrent College Enrollment** programs, a new **Premier Teaching Scholarship Program**, **Incentives for Excellence Funding**, and **Outcome-Based Education** systems.

Utah's schools continued the reform efforts by adding cost-effective **Tele-Learning Programs**, changes in **Vocational Education**, **Advanced Placement** programs, more stringent **Teacher Preparation and Certification**, and the infusion of **Technology** into the instruction and management programs.

These reform efforts have served the state well, creating an opportunity for transition from past practices to future opportunities. They have paved the way to take the next major step, for which this report will call—**a fundamental restructuring of Utah's Public Education System.**

Because the future is what this report is about, these past efforts will not be discussed in further detail. But the reader of the report should realize that the Commission is fully aware and highly appreciative of both the efforts expended and the progress that has been made.

"The Old Order Changeth . . ."

The old order changeth, yielding place to new. . . . lest one good custom should corrupt the world.

—Alfred, Lord Tennyson

Education in America and Utah has been a "good custom." It has served us well, helping to make us, for a time, the most literate, most productive, and richest country in the world.

However, the old order—the society in which we live—not only *has* changed; it continues to do so, at an accelerating rate. It is time that our custom of education changed as well.

It is time to move beyond reform, to bring about a restructuring, based on a fundamental shift in focus in education.

We are not talking simply about *reform*, because it is time to move beyond reform, to bring about a *restructuring*, based on a fundamental shift in focus in education.

Under the old order, the focus has increasingly been on the workings of the system and how to make it more efficient and effective. What should happen now is that the focus must shift, to the student's needs, and the systemic changes needed to meet these needs.

A focus on student needs must spread to all of public education, if Utah's schools are to function properly in the new world of the near future.

This process of focusing on student needs is already occurring in some areas of the education system—e.g., math instruction, special education, gifted and talented programs, etc.—where such needs dominate the learning environment. But a focus on student needs must spread to *all* of public education, if Utah's schools are to function properly in our changing world.

We submit this report as a map charting the way to that goal.

SECTION ONE

The Mission of Public Education

The Commission has been charged by the Board of Education with the responsibility of constructing a strategic plan for Utah schools. We began by asking the question, in business language: Who is the "customer" of public education? Who pays for it, who "consumes" it, and for whose ultimate purpose is it conducted?

Public instruction cannot help society achieve its aims if those who pass through the educational system are not empowered, as a result of the educational system, to function adequately in that society.

The Commission decided that society—in our case, the state of Utah as a whole—is the ultimate consumer of public instruction. Society pays the bill and benefits from (or is penalized by) whatever level of quality is achieved; society uses education to help further its own purposes. In America, these purposes are framed by words familiar to us all—"a more perfect Union," "domestic tranquility," "the general welfare," and "liberty and justice."

We realize that society is not served unless each of its components—students, parents, families, etc.—is served. But ***the most important component of society in this context is the student.*** Public instruction cannot help society achieve its aims if those who pass through the educational system are not empowered, as a result of their education experience, to function adequately in that society.

The MISSION of Public Education is to empower each student to function effectively in society as a competent, productive, caring, and responsible citizen.

The GOALS of a system built on this mission must be to:

I. Involve students as full partners in their pursuit of learning, accountable for their actions.

II. Enlarge parental and community involvement to enhance school and student success.

III. Establish a curriculum and instructional delivery system that has measurable outcomes.

IV. Ensure that every school is an effective learning center with a positive learning climate.

V. Increase the sensitivity, effectiveness, efficiency, and satisfaction of teachers, administrators, and other educational professionals.

VI. Increase learning and productivity through technology.

The OUTCOMES of reaching these goals will be:

- Students empowered by educational partnerships with parents, teachers, and communities to foster the development of each student's individual social and academic potential.
- Students with a love of learning.
- Students prepared for the next stages in their personal, educational, and occupational development, with a foundation for lifelong learning.
- Students with an understanding and appreciation of the intellectual, cultural, artistic, and political heritage from which our American society springs.
- Students capable of the wise and responsible exercise of personal, political, and economic freedom.
- Students prepared to address the challenges of the 21st century, including an increasingly technological and information-oriented society, and competition with international peers.

This MISSION STATEMENT, with its corresponding GOALS and OUTCOMES, springs from the priorities that are part of Utah's heritage—strong character, strong families, and a strong commitment to lifelong learning. It faces the future with confidence.

SECTION TWO

The Customs That Have Served Us in the Past

The future is more clearly seen if we have a perspective of our educational past. We need to face our present challenges with a clear understanding of how we came to be where we are.

Over the past two centuries, public education in the United States has gone through four major systemic changes, each of which came about in response to changing societal patterns and needs. Throughout more than 200 years, parental involvement in the educational process has been a common thread. And, as the costs of education have increased, the percentage of household income going to education has increased.

The First Schools

In the early years of the Republic, in a largely agrarian world, the home school was the only option available for most Americans.

The principles that governed early schools were simple: the family was the "customer," the home was the classroom, and the subjects taught (and methods used) reinforced the family's perception of the world. Overwhelmingly, it was an agrarian world; 90 percent of the American population lived on farms at the beginning of the 19th century. Religious values, some basic reading, writing, and figuring skills, a little history, and a lot of farm skills and lore—all of which could be taught by the older members of the family—constituted the "core curriculum."

The "Little Red Schoolhouse"

The "Little Red Schoolhouse" evolved to serve the combined needs of several families.

The "little red schoolhouse" was the result of several families pooling their resources, but it largely retained the home school orientation. The focus was on making sure that students had the ability to function effectively in their future, which was, by and large, a predictable one.

The "Industrial" Model School

The Civil War and the Industrial Revolution changed everything. Americans started moving into cities and society demanded more education than families could provide, even when they got together. A wave of immigrants, primarily European, arrived on our shores in great numbers, generally settling in the cities.

Throughout the country around the end of the 19th century, schools began to be organized around the production practices used in the factories—the best model we had at that time for processing things in large numbers. Schools faced vastly increased demands—more English, more math, more geography, more social studies, more of everything. Learning took place in a formal classroom setting, for a set period of time, with a single subject being taught at a time. Students were assigned their places on the basis of age.

The Industrial Model School, with students grouped by age grades and attending school in a building with many classrooms, emerged in response to the sociological changes that attended the Industrial Revolution.

When a bell rang (like a factory whistle blowing?), the students reassembled themselves in a different set of rooms, or put aside the subject being addressed, and started over again—new topic, same conditions, same exact amount of time.

Industrial society required interchangeable parts, and the diversity of home schools meant chaos in the workplace, when graduates with varying skills and extents of knowledge came together to produce a product or perform a non-farm service. As a result, specialized academic textbooks, written by experts, became the basic tools teachers used in the classroom. As more students went to school, school districts became larger, more structured, and more uniform. Teachers, with more and more expected of them, received more formal training for their jobs.

Some students thrived in this environment; some did not. For a time, those who did not were allowed to drop out with no stigma attached, to find their own way in the work force. Job skills were rudimentary at best, and these dropouts created a convenient labor pool that helped fill the factories and build America into a world power. Society, in general, was in balance.

The Beginnings of Reform

Another war, World War II, changed everything again. As men went off to war, women came out of the home and into the factories and mills. In 1945, the soldiers, sailors, and airmen came home and, on the GI Bill of Rights, swelled the number of college students. The increasingly complex post-war world demanded more advanced training. Adult education programs expanded. We also started hearing calls for educational reform as the college prep role of public schools began to increase in importance.

The Reformed Industrial Model School—today's typical school—retains many features of the Industrial Model School, but with significant changes that have resulted from education reforms.

When the Soviet Union beat America into space with the launch of Sputnik in 1957, the cause of reform took on real weight, producing an overnight clamor. More math! More science! Back to basics! More advanced curriculum for *all* students. Help America catch the Russians by reforming the schools. The federal role in education began to mushroom.

Then came the 1960s, with a broad context of social concerns and changes—civil rights, integrated schools, special education, increased job opportunities for women, nutrition, "latch-key" children, and questions about America's role in the world,

Despite vigorous reform efforts, the major educational report of the 1980s described "A Nation at Risk."

against the backdrop of the Vietnam war. The teaching force changed, seeking a greater voice in the system (often unsuccessfully); and students changed, having grown up in a television-dominated world.

Money to pay for all those changes was found. In Utah, spending per student increased in slow but steady terms, in constant dollars, and then expanded 33 percent from 1970 to 1986. (Even with this increase, Utah has lagged behind other states. In the early 1970s, we were spending 80 percent of the national average, on a per-student basis; now it is closer to 60 percent.)

As a society, we mounted a major effort to make our nation's schools equal to the challenge of the 1980s. And yet, in 1983, a watershed reform document, prepared under the direction of the U. S. Department of Education, was entitled "A Nation at Risk," detailing serious educational shortcomings and collective frustration. With public attention focused on education's challenges, many individual states took a hard look at their own educational systems. More studies and reports came, but, in spite of the significant reforms that have been made over the past 40 years, most of them are litanies of failure and frustration.

Where Are We Now?

In the past, society's goals were clear-cut enough that public education could adapt and respond effectively. In today's complex and increasingly interdependent world, changes in our lives have accelerated to the point where, in Albert Einstein's phrase, ". . . confusion of goals seems . . . to characterize our age." If this is true of society as a whole, how could it be less true of the school system?

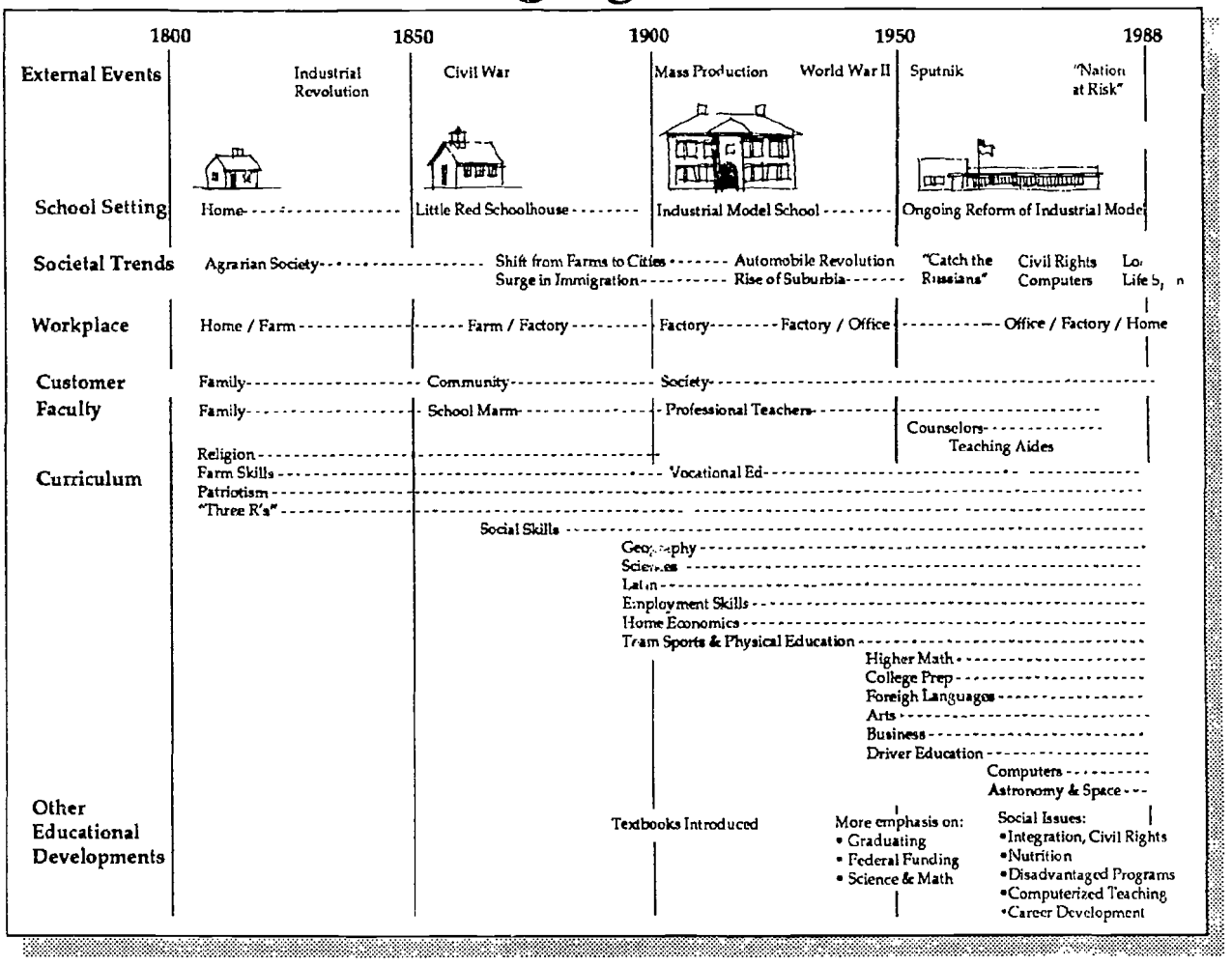
The symptoms are there for all to see. Far too many of the students enrolled in public education drop out, mentally or physically. Teachers are often cast as scapegoats, and held in low respect. Parents are frustrated, and are often not able to be of much help to their children. The effects ripple on.

The accelerating rate of social change suggests that the only predictable thing about the future is that it will arrive sooner and be different than anyone expects.

In many disciplines college graduates discover that their training is obsolete before the ink on their diplomas is dry. People who in past years could have looked forward to a stable career through to retirement age are seeing their jobs disappear, and are having to retrain for new careers in mid-life. The computer-generated "information explosion" overwhelms us with more knowledge than we can process and assimilate. Few things—even cherished institutions—seem stable anymore.

The school sytems have made significant efforts to adjust and adapt to all this, with various successes and failures to report. Recognizing that the only certain thing about the future is that it will arrive sooner and be different than anyone expects, we need to create an administrative climate that will both anticipate and be psychologically prepared to deal with rapid change.

Education's Changing Patterns: 1800-1988



Our educational system has always been able to adjust to meet the challenges of the society in which it functions; as societal changes accelerate, the adaptability of the schools must keep pace.

The balance of this report focuses on the kinds of adaptations that Utah's schools must make in order to meet the challenge of accelerating change and provide educational experiences that can fully meet the needs of their primary customers—the students.

SECTION THREE

A Shift in Focus

Education is not the only American institution that has undergone tremendous change since the end of World War II; American business, which dominated world trade in the post-war period, has, in recent years, been severely shaken by foreign competition. In seeking answers to the challenges that American firms face in an increasingly complex and globally interdependent society, authors Tom Peters and Robert Waterman set out "in search of excellence," ultimately producing a book of the same title.

They discovered that excellence is created when a company shifts its focus to the needs of the customer; as a by-product, the firm will also become profitable, efficient, and a pleasant place in which to work. We believe that a similar result in education will occur when educators shift their focus from the workings of the system to the needs of the students, with the first emphasis always being on the quality provided each individual.

Excellence in education will occur when educators shift their focus from the *workings of the system* to the *needs of the students*, with the first emphasis always being on the quality provided each individual.

Excellence Comes From Meeting Customer Needs

Business leaders have discovered that they cannot pursue excellence without planning for it, yet planning time is hard to find in a day filled with concern about the details—how the system is operating, right now. Shifting the focus to customer needs, however, demonstrates that many of the daily "emergencies" can and should wait, simply because they are irrelevant to the overall task at hand.

What business analysts have found is that too many American companies were being managed around the concept, "This is what we make; let's go sell it." Excellent companies ask themselves, "What does the customer need? Let's go make it."

Research studies show that, while virtually every student is *capable* of learning, there are significant differences in the *way* individuals learn.

The educational parallel of these statements would be, in the industrial model school, "This is what we teach; students should sit still and learn it." The Commission is asking instead for a mind-set that says, "What do students need? Let's provide it."

When we focus on the students, what do we find? The one thing all studies agree on is that, while virtually every student is *capable* of learning, there are significant differences in the *way* individuals learn. Thus, a single method of teaching is bound either to leave out or discourage large percentages of the school population.

Armed with this knowledge, the shortcomings of the industrial model school become clear. It is built on the assumption that, if you put students of the same age in the same room for the same period of time and give them all the same information, all of them will be "taught." Research, as well as every parent's and teacher's personal observation, tells us that this is not necessarily so.

Helping Students Make Connections

Research also shows that internalization (and individual ownership) of information and concepts takes place when students make a connection between what is being offered and their own experiences or other information that they already possess.

As it has become obvious that one instructional approach simply cannot fit every student, some first steps toward response to this fact are being taken. Education for special populations is based on a recognition of learning differences. And, in the elementary grades, some connections between subjects are seen in such general groupings as "Language," "Social Studies," or "Math."

Internalization and individual ownership of information and concepts take place when students make a connection between what is being offered and their own experiences or other information that they already possess.

By the time a student reaches high school, however, old "industrial model" habits reassert themselves. Class procedures are more structured and lecture-oriented. Connections between subjects become less obvious, as "Language," for example, becomes compartmentalized into English, Reading, Speech, and Drama. Students whose personal learning styles do not readily respond to the lecture method may then have difficulty seeing the relationships between subjects.

The problem will persist as long as some educators view the subject matter as the important thing, valuable in and of itself, regardless of relevancy to the needs of the individual learner; until this view changes, little or no effort will be made to help students make the connections between that subject and their lives. Students who see no relevance in what is being "taught" subconsciously decide that formal schooling need only be retained until the final exam; those who see even *that* as irrelevant drop out, mentally or physically.

To empower students to function effectively in their post-school lives, the school experience must be shaped in response to what the students need. It is time to restructure the system around the research that tells us what those needs are.

SECTION FOUR

A Student-Focused System: How It Works

A Restructured School (drawn from an actual working example)

Stacey arrives at school at noon for five hours of classes after working at a part-time apprenticeship in carpentry provided through a cooperative arrangement between the school district and the union. Transportation from the work site to school is provided by local businesses in collaboration with the school.

Stacey attends classes in social studies, English, mathematics, science, and an elective—the curricula have been designed by teachers. There is emphasis on basic skills, with progression into higher level study in each course. Like other students, Stacey moves from one segment of a course to another upon attaining mastery of the material. All students work at their own pace to complete diploma requirements. Students are grouped into study units of up to 10 students each, according to their focus on particular segments of courses. Three such groups can work simultaneously in a classroom, in which students at different levels of mastery in a subject share a teacher and an aide. With ten computers in the classroom, one of the three study units can be assigned to work on the computers while the other students are working with the teacher or the aide, according to the teacher's planning and direction.

Today with nine other students Stacey will have a group meeting with the school counselor to work on life planning skills and discuss problems and concerns related to school, home, jobs, and family. The counselor, with a total of 100 students to serve and track, and with administrative support from the school office, will meet individually with Stacey tomorrow at a regularly scheduled appointment. The counselor and the teachers are also available at other times as needed for students and for parents.

Classes are not always conducted in the school building. Stacey's geometry teacher has provided an individual practicum at the work site where Stacey is in the apprenticeship program. It is designed for practical application of the geometry content of the course.

Having begun the ninth grade somewhat behind and somewhat older than other students, Stacey has now caught up and is ahead of the grade in social studies and mathematics as a result of a strong sense of belonging and connection through self-pacing of the curriculum and the attention and encouragement of counselor and teachers. If this progress continues, Stacey may graduate six months ahead of schedule and move into full-time employment following the apprenticeship.

In the realization that all students need that kind of approach, the entire school has been restructured and all students have the same opportunity and support to meet their individual needs.

Source: **National Foundation for the Improvement of Education**

The following specifics of a student-focused system, drawn in contrast to the industrial model school, are not meant to be either definitive or prescriptive; there are literally hundreds more that could be included. These are chosen simply to point the way toward the kind of flexible and outcome-driven system that Utah is seeking.

Role of the Student:

• *In the current reformed industrial model school, students are primarily passive participants in the education process—they are "at the end of the line," as receivers of material that has been reviewed, approved, packaged, and presented by others. While they have some choice as to class schedules in the high school years, their degree of involvement in planning their education direction is low.*

• **In a student-focused system, students would become full partners—with teachers and parents or other adults—in assessing needs, making plans, setting goals, and reviewing results. A personalized Student Education Plan (SEP)* would be created for each individual, and the student himself or herself would be a key person both in drawing it up and in monitoring progress.**

Individual learning plans would take into consideration the linguistic, cultural, ethnic, and economic burdens that some students carry, as well as individual learning ability and learning rates. Categorizing (and possibly stigmatizing) students would diminish, in the recognition that every child is at risk in one way or another.

As a footnote, we must salute the pathfinding work done in Special Education. Starting with the physically and mentally handicapped, those who serve these students have led the way toward a student-focused approach by creating individualized education plans for every student, providing mentors, and giving specific detailed assistance in each circumstance.

Role of the Teacher:

• *In the reformed industrial model school, teachers are part of the "delivery system," teaching from textbooks adopted without their input, in time schedules set by custom, in accordance with school policy guidelines. While there is latitude—and the best teachers make wide use of it—far too many feel bound by the rules of the system, and end up discharging their duty to the students by only doing what they are told.*

• **In a student-focused system, teachers would have the primary professional roles, not only in classroom teaching, but in assessing student needs, diagnosing problems, and designing instructional strategies. They would be major participants in the Student Education Plan (SEP) process, helping to set goals and**

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* See Appendix B for details

review results. Teachers would be free to refer students to other resources that would better meet student needs, and approve different time schedules where appropriate. Teachers, as the schools' primary contact with students, would have a greater voice in how the school operates and would have a freer hand in selecting learning materials and course work. They would be held accountable (and rewarded) for the progress of their students, not just for how well they follow rules.

Role of School Administrators:

• *In the industrial model school, administrators act as monitors, enforcing the rules that are set by boards and higher administrators to ensure good practice. They are evaluated and rewarded on the basis of those rules; there is no particular incentive for innovation.*

• In a student-focused system, administrators act primarily as planners and facilitators, who are expected to lead and enable those with whom they work to achieve the desired outcomes. They are encouraged to innovate and are rewarded on how well the job is done. They have more control, more accountability, and more latitude in which to work.

Role of Policy Makers:

• *In the industrial model system, policy makers enact the statutes and rules by which the system is regulated and ultimately run. They strive for improvement, but through conformity to established norms.*

• In a student-focused system, policy makers strive to create an environment in which standards are maintained, but also one in which experimentation can take place, geared to outcomes rather than strict rules. They "grant permission" where this is necessary, providing the encouragement (and prodding) needed to move administrators and teachers toward desired outcomes. Since the system is "performance driven," policy makers will allocate reward dollars on the basis of performance, and create incentives that respond to outcomes rather than conformity to regulations.

Role of Parents:

• *In the industrial model school, parents are sometimes held at arm's length. Too often, school administrators are viewed as the education "experts," and parents are expected to perform a merely supportive role—encouraging students to do their homework, supporting school policies, raising funds for school projects, etc.*

• **In a student-focused system, parents are recognized as the first teachers and lifelong mentors. Thus, the system will reach out to the parents long before their child enters school, and involve them wherever possible, including teaching concepts and providing instruction in parenting skills. Parents will be part of the research activities, meaning that the parental experience will be drawn upon in determining what is taught and how. Volunteerism will become an integral part of the educational process, with parents and others available to work in differentiated staffing systems.**

Basic Instructional Approach and Scheduling:

• *In the reformed industrial model school, teachers are expected (at least in the lower grades) to "know everything." Students move from one level to the other, from one teacher to another on the basis of age and "seat time." Students are promoted to the next grade after they have spent a prescribed amount of time being exposed to a preset curriculum presentation. These presentations take place in a room filled with other students assigned principally on the basis of age.*

• **In a student-focused system, age would diminish as an academic placement criterion; the determining factor would be student need. Instead of always going to a set room every day (and changing rooms on a set schedule) the student would, when necessary, go to a separate facility teaching the concepts he or she needed to master. The amount of time spent at that facility would be determined by the speed with which the concept was mastered. Students there would meet with other students with similar needs, regardless of age or time previously spent on the subject.**

Testing and Evaluation:

• *In the reformed industrial model school, testing often becomes a "gotcha" experience, with too little attention given to individual achievement and student progress. The principal use of aggregate test scores is to determine efficiency and overall effectiveness of the school at broad levels, not at the classroom or student level.*

• **In a student-focused system, testing would be used to gather data and make decisions about new learning directions—ultimately to determine when students could move from one learning center to another. Testing would be a tool to assist the student and facilitate the learning process.**

Textbooks and Instructional Media:

• *In the reformed industrial model school, textbooks are adopted by a central committee, operating at the state level—a process motivated by the efficiency that standardization provides. Teachers are expected to use approved texts which support the duly adopted curriculum.*

• **In a student-focused system, while the state would continue to play an appropriate role, learning materials (either written or electronic) would be chosen primarily by the managers of the various learning centers, on the basis of assessments made of student needs. Future materials will be less text-oriented and more reference-oriented, and the function of a state or district textbook committee would be in researching available materials, and assisting the managers by telling them (1) what materials and equipment are available, and (2) what they will do.**

School Buildings and Facilities:

• *In the reformed industrial model school, it is assumed that each school is essentially self-contained, and the quest for equality of program dictates that it be roughly equivalent to every other school. Thus, if one junior high school has a science lab, every other junior high school should have a science lab, equally well-equipped.*

• **In a student-focused system, the overall administrators of the system would be charged with the responsibility of maximizing the efficiency of available resources. If it made more sense to locate the latest "state of the art" equipment in a single facility and bring students throughout the system to that facility on an as-needed basis, the administrator would have both the authority and the responsibility to do that. Individual schools throughout the system need not be equal; equality of bricks and mortar would be replaced by equality of student access.**

Curriculum Planning:

• *In an industrial model school, it is assumed that those who devise the curriculum know in advance what the students will need after graduation. Consequently, the school year is divided into lesson plans and time periods that cover that material. Once the curriculum for a particular year has been presented, the inaustrial model school can shut down until the next school year begins.*

• **In a student-focused system, it is recognized that the onslaught of radical change is continuous and no one knows specifically what any one student will need in the future. Nor will students all reach the same point in the curriculum at the same time, such as an arbitrary end of the "school year." Learning centers established to teach basic concepts would function**

on a year-round basis and curriculum offerings would be updated as often as research produces new insights or discoveries, or as teachers assess the need for program adjustments.

The importance of these concepts in societal contexts would be stressed, so students can use them in either college or a career-oriented post-school experience.

School Hours and Use of Schools by the Community:

• *In an industrial model school, school administrators concern themselves solely with the business of presenting the adopted curriculum to students aged 5-18 during the hours from roughly 8:00-3:30. Although some community education and cooperative education programs with business are offered, adult education, pre-kindergarten preparations, and on-the-job training are usually seen as someone else's responsibility.*

• In a student-focused system, the "store will be open" much longer hours. Facilities for teaching basic concepts will be available to parents who wish to obtain skills that they missed (or that were not offered) while they were in school, employers who seek to upgrade their work force, and students who discover gaps in their preparation.

The student-focused system thus becomes a community resource, available to also serve the educational needs of those who have traditionally been beyond the purview of the industrial model schools. Mentors in a student-focused system could function community wide, helping arrange for students to receive training at colleges and universities, as the students demonstrate sufficient competence. Post-high school institutions could abandon their remedial courses, using the facilities of the student-focused system to teach needed concepts to university students who had somehow missed them prior to entering college.

Arrangements could be made with local businesses and governments, allowing students to spend "school time" on the job, as part of their learning experience, while private employees and civil servants could also spend "work time" in the educational system, brushing up on skills and basic principles required for job performance. School facilities would be open to the entire community well past traditional school hours.

Advancement and Graduation:

• *In the reformed industrial model school, graduation comes when all minimum required courses have been passed. It is an annual group event, in step with student age levels and time spent in the system.*

• In a student-focused system, "graduation" would be competency based and much more of an individual event. "Locked in" requirements (hours or semesters) would be secondary to

fulfilling student needs. A student could leave the system upon demonstration of mastery, and re-enter it in order to fill a need—perhaps some years later.

Summary: How It Will Work

Reformed Industrial Model School	Student-Focused System
• Primary accountability is at the district level	• Accountability is at the building and classroom level
• Change is brought about by fixed programs	• Change is driven by strategy
• The system is controlled by structure and finance	• Control comes from goals, research data, and management skills
• Testing is used to compare students to each other	• Students are judged on their own individual rates of progress
• The primary focus is on teaching	• The primary focus is on learning
• The teacher handles complexity	• Technology handles complexity, leaving the teacher to assess and guide students
• Curriculum takes precedence over the teaching process	• Both are treated equally
• The process is textbook driven; the change cycle is 5-8 years	• The process is needs driven; the change cycle can be as short as a single school term.

Utah's schools, as presently managed, are in something of a stalemate—those who administer them are saying, with considerable statistical support, that they need more money. The tax-paying public is saying, with significant political fervor, that they don't want to give it. A system focused on student outcomes, centered around firm guarantees, administered at the local level, and tied to process rather than programs, could break that stalemate.

First Steps Toward Utah's Strategic Direction

SECTION FIVE

Educators will recognize that every example of the workings of a student-focused system, given on the previous pages, comes from an actual school program that is now in place, somewhere. Past reform efforts have produced these experiences, and they work. In its restructuring to a student-focused system, Utah needs to bring together all the experiences of such an approach into a coherent whole. This will not come about in the ordinary flow of things; it will require a conscious act (or series of acts) of will.

Removing the Barriers

There are many barriers that must be removed. Some aspects of the industrial model system, structurally established, actually hinder those teachers and administrators who seek to focus primarily on student outcomes.

The Commission recognizes that overcoming these barriers to empowerment may require changes in existing statutes, rules, and administrative practices. We recommend that those rules and practices that do not enhance the accomplishment of the goals as outlined be repealed and that new legislation be enacted where required. We have to "free the system up"; local school districts must be given clear permission to proceed.

The State Board of Education should adopt a set of student-focused guarantees—outcomes that students, parents, and the public can expect with confidence. The Board should then hold local boards accountable to meet them.

How to Proceed:

As a beginning step, the State Board of Education should adopt a set of student-focused outcomes that students, parents, and the public can expect with confidence from the state's schools. In its constitutional role of providing general control and supervision, the Board should then hold local boards accountable to meet these outcomes.

All responsible state officials, in a united voice, should say to local school officials, "If you will set your system toward these outcomes, the state will provide you the necessary funding and remove any restrictions that might hinder you. You will have our full support and help. However, if you take the funds and the new administrative freedom and fail to produce significant change in the lives of your students, we will want to know why."

This means that, in shifting to a student focus, administrators and teachers need not abandon things that have made schools produc-

tive in the past. They need not reject a present practice just because it isn't on some list. The criterion for an action should be, *"will it get the job done?"* rather than, *"is it approved?"*

The Guarantees:

The Commission recognizes that there are variables beyond the control of public education that influence student outcomes—variables that preclude absolute guarantees. However, we consider the following to be central to the overarching strategy:

- Schools must guarantee that their professionals will work to see that **each student** finds success in the acquisition of learning curriculum, social development, and behavioral accountability that will permit him or her to function effectively in the world that comes after school, be it in the workplace or in future education. This is our definition of **empowerment**, as the word is used in the Mission Statement.

- Accordingly, schools, in partnership with other agencies, families, businesses, and elements of the community at large must put a plan in place to raise **each student** at least to minimum levels of competence and monitor continuing progress both toward those levels and beyond. The plan must provide literacy in language, mathematics, history, science, geography, technology, and American cultural values.

- Pursuing this plan, schools must guarantee that their professionals will be trained to recognize that **each student** has differing needs and learning styles. Each student's potential must be explored, regardless of what the industrial model school might consider "the norm."

- Finally, schools must guarantee that **all students** will be respected, that their individual rights will be honored by the school's professionals. While schools cannot guarantee that each student will achieve a solid sense of self-esteem, they must work to that end and monitor the performance of school professionals in that regard.

Reaching the mission of "student empowerment" should be the constant, like the star used in celestial navigation. Steering the ship on the sea, to keep it on course with the star, becomes the responsibility of the captain on board.

The steps to be taken can be summarized as follows:

- **Each local school district should begin immediately to remove existing barriers to student empowerment.**

- **Each educational professional should understand and embrace the student-focused approach.**

- **Each local administrator—indeed, each teacher—should produce his or her own specific strategy to fulfill the mission.**

- **Then, specific strategic plans should be drawn up and reviewed, updated and altered as circumstances warrant.**

A Final Word: This We Believe

Utah was built by people who believed it could be done, in spite of considerable evidence to the contrary—just about every Utah school child knows the story of Jim Bridger's offer to pay a significant sum for any crops ever grown in what was then part of the Great American Desert. Those who founded the state achieved their goals primarily by wise use and development of *human* resources, since other resources usually associated with a successful new settlement—lush lands, a significant port, or location at a crossroads of commerce—were lacking.

Those who founded the state achieved their goals primarily by wise use and development of *human* resources.

Utah's current educational challenge has to do with the wise use of those same human resources, against a backdrop of scarcity, just as in the beginning.

We believe that restructuring Utah's educational system around a student-focused approach can produce a wise use of those human resources, through substantial increases in the effectiveness of our schools. It will not come to pass, however, until Utahns go back to their common heritage, the spirit that drove Mormon farmers, Irish Catholic miners, and other early settlers to create wealth and prosperity in the midst of a desert, through their firm determination that mediocrity would not be good enough.

If Utah schools are to meet the challenges coming in the future they must be backed by a statewide consensus of commitment to success. Parents, businesses, teachers, administrators, legislators, community leaders, and the students themselves must put aside whatever else divides them, put away their pessimism, and focus together on the only educational goal that matters—empowering our children to function effectively in the society in which they will live.

If Utah schools are to meet the challenges coming in the future they must be backed by a statewide consensus of commitment to success.

Appendices

The two appendices that follow provide additional details on key aspects of implementing a student-focused public education system in Utah. Again, the caution is given that the specifics proposed in this section of the report are not mandated, but given only by way of suggestion.

Appendix A deals with some of the **implications of reallocating existing educational resources** to achieve a student-empowering system, and discusses basic funding issues.

Appendix B lists some **suggested activities** that administrators could consider in their own individual strategic plans. Suggestions are listed for each of the six goals described after the Mission Statement in Section One of this report.

APPENDIX A

Reallocating Resources in a Student-Focused System

The student-focused approach to education will not require any less effort, but it will utilize available resources more effectively.

Education costs money; Utah has relatively little, when compared with other states. Utah has the lowest expenditure per pupil in the nation and the country's highest ratio of students to teacher. Those responsible for allocating state resources, primarily the tax dollars, have worked diligently to do so as efficiently as possible, but it has all been in an effort to support the current reformed industrial model school. The student-focused model will not require any less effort, but will utilize available resources more effectively.

Reallocating Existing Resources

The shift to a student-focused system begins with a review and reallocation of available resources. The chart on the following page provides a quick overview as to how existing resources can be reallocated to produce a student-focused system.

As the first column on the chart demonstrates, we have many more resources with which to work to support education than just money. If all these can be brought to bear on student needs—each in concert with the others—significant rather than incremental improvements in student performance can result, without immediate requirements for more funds.

Will There Be Additional Costs?

Some will complain that the Commission should be explicit about just how much a student-focused system will cost, and how soon its productivity gains will begin to take hold. The fact is that we cannot know costs with certainty because they will differ from district to district; we need direct experience before we can deal with specifics. However, anecdotal evidence shows that some student-focused programs have proven to be more expensive (but more effective) than their industrial model predecessors, while others have generated significant savings. Monitoring costs is an ongoing function, and a responsibility of both the state and local boards.

What Resources Are Available?	How Are They Used Now?	How Could They Be Used if the Focus Shifts?	Refer to These Goals in Appendix B
• State Legislature	Strengthen the old model and provide the money it needs	Redefine the statutory framework to facilitate the shift	Goals I-VI
• Public Moneys	Provide an equalized amount of money per student	Meet the needs of each student as identified in the personal Student Education Plan (SEP)	Goals I-VI
• State Board of Education	Provide general statewide control and supervision of the system	Keeper of the statewide vision and champion of quality for all students	Goals I-VI
• State Core Curriculum	Used as an end in itself	Used to assist students to achieve SEP outcomes	Goals I, II, III
• Utah State Office of Education	Carry out state and federal statutes, rules, policies, and programs	Process helpers, resources to districts to implement new focus	Goals I-VI
• Community	Support the existing system	Community involvement and participation to ensure student success	Goals II, IV
• Local Boards of Education	Make policy for local district and represent the public	Catalyst to adopt and carry out the vision according to local needs	Goals I-VI
• District Office Staff	Manage to state rules	Manage to identified outcomes	Goals I-VI
• School Building Administration	Manage to district rules	Instructional leader to focus and facilitate teaching toward the identified outcomes	Goals I-VI
• Teachers	Present approved curriculum	Full working partners to meet needs as identified in the SEP; learning mentors to students; empower students to be self-directed learners	Goals I-VI
• Parents	Support the teacher and the system	Full working partner in the education process	Goals I, II, IV
• Students	Fit into the system	Help the system fit them and become working partners in planning for and participating in a personalized learning process	Goals I, II, III
• Business	Source of funds, some on-the-job training	Partner in mentoring, planning, internship training, and a primary source of students (with funding) for schools	Goals II, IV, V, and VI
• Higher Education	Recruit and train teachers; do research	Partner lending expertise and resources to help implement the new focus, with training and research done at the school site	Goals II, VI
• Technology	Limited help to teachers, students, and administrators due to limited hardware and software	Extensive use in planning, learning, and personalized learning	Goals I, VI
• Physical Plant	Only 15% of the time in a 24-hour, 365-day year	Longer hours and more days for a broader range of ages	Goals I, II, IV
• Accreditation	Certify school practices and procedures against norms	Improve the overall quality of the system	Goals I-VI

The shift in focus will result in a more effective and efficient system because it will be driven by results—outputs—rather than resources—inputs.

However, we believe that meeting goals I through IV, as outlined in detail later in this report, need not require any additional money. They can be implemented and achieved by reallocating and refocusing existing state and local resources. This can *not* be accomplished simply by statutory requirement or policy dictate, however; it must be achieved by giving local districts both the opportunity and the responsibility to allocate funds on the basis of identified needs at the classroom/school level. This means removing some controls currently legislated at the state and federal levels.

The reallocation also involves a teacher/management decision-making process that is driven by student learning and progress data. The right to allocate funds at the building level requires a much higher level of accountability at the classroom, school, and district levels.

As local boards and building administrators review school activities in the light of a student-focused approach, specific programs that are appropriate to the situation will suggest themselves. In every case, the actual spending decision can be tied to the student needs being met, rather than the structural requirements of an industrial model school.

Goals V and VI *will* require some additional money. They represent investments that will result in long-term returns for students and citizens. When met, these goals will produce an increase in education productivity and ultimately a long-term savings to the state.

The shift in focus will result in a more effective and efficient system because it will be driven by results—outputs—rather than resources—inputs. Financial rewards to those who work in the system will be based on the quality and quantity of their individual and collective performance, measured against predetermined outcomes, rather than tenure and educational status.

Summary:

The student-focused system requires a more efficient and caring approach to helping people in their individual learning pursuits and a more efficient use of all resources available to education. We believe that money will be used more effectively in a system that has:

- Clearly identified educational outcomes;
- A substantial amount of planning with students, teachers, parents, and others;
- A "needs driven" approach to the use of resources;
- School-site leadership based on actual and current data;
- Increased accountability on the part of educators, administrators, and elected officials for the learning and learning processes of all students; and

• A reward/incentive system that compensates educators based on the quality and quantity of work performed.

The important thing about costs is that they must stabilize, and that education ceases to be viewed by the public as a financial "black hole" for which more and more money is constantly being sought, with no guarantees as to outcomes. A student-focused system is the best way to deal with this challenge; the industrial model school has been overwhelmed by it.

APPENDIX B

Suggested Activities for a Student-Focused System

An Invitation . . .

In this appendix, the Commission has listed each of the six goals described after the Mission Statement in Section One; beneath each goal, we have placed some activities for local administrators and teachers to consider as they draw up their own individual strategic plans.

We recognize that many school administrators, viewing these suggested activities, will say, "We can do better than that." We applaud such responses and invite them to try. We want to make clear that the suggested activities are neither prescriptive nor exhaustive. They appear here simply because, in every case, a significant portion of the members of the Commission felt they should be given serious consideration.

I. GOAL: Involve students as full partners in their pursuit of learning, accountable for their actions.

Activity 1: Student Education Plan (SEP)--Each student must be individually involved in the development of a personal Student Education Plan on a yearly basis, or more often if needed. The Student Education Plan will provide the student with: (a) interaction with a professional educator who is skilled in diagnosing learning needs, suggesting programs of learning that address those needs, and interpersonal communications; (b) the opportunity to make choices based on available learning opportunities and data about courses of study to pursue; (c) a set of ground rules that make the student accountable for his or her learning; and (d) a monitoring and assessment process to aid the student in evaluating progress.

Activity 2: Home Partnership for Student Success—Implement, in partnership with the home, a daily planning system for every student that would assist the student in scheduling school and non-school activities and responsibilities, including required time for study outside of school hours. This daily planning system, which would include a monitoring and feedback system, would serve as a consistent communication link between the school and home, providing a vehicle for better parent awareness and improved student accountability.

Activity 3: Students Helping Students—On a statewide basis during the next five years, student leaders should work with educators to organize a "Students Helping Students" program in every school, implementing such activities as peer tutoring and counseling, study groups, peer coaching, cross-age tutoring, homework hot lines, teacher assistance leagues, and teacher/mentor systems—all aimed at helping every student find success in the learning process, academic skill development, and character development.

Activity 4: Student Input—At all appropriate levels, students will provide input into the selection of courses and the instructional process. This process will provide more complete information for those who have the responsibility for selecting and designing courses of study, instructional processes, and the places and environments for learning.

II. GOAL: Enlarge parental and community involvement to enhance school and student success.

Keeping parents involved in the what, how, and where of their child's learning is a mark of the most effective schools.

—Lawrence C. Stedman

Activity 1: Planning—The parents of each student (and other concerned adults) must be personally involved in the development of the Student Education Plan, on an annual basis or more often if needed. This process will: (a) effectively involve the parents in the planning, implementation, and assessment of their student's progress; (b) identify how and when parents can help their student in the learning process; and (c) provide an agreed-upon learning plan for each student that will serve as a blueprint for a positive school experience. This will produce a complementary support system where the school supports the home and the home supports the school, for the benefit of the student.

Activity 2: Parent Assistance—On a statewide basis, specific programs should be designed and implemented in every school and community that empower parents as first teachers, tutors, volunteers, mentors of other children, and communicators to assist students and schools in the learning process.

Activity 3: Public Input and Communication—In every school in the state, implement effective two-way communication avenues between parent and teacher, parent and school, parent and district, school and community. These communication avenues can facilitate the gathering of opinions, data, and needs; they can also serve in communicating results, accomplishments, progress, and expectations of students and schools. Avenues of communication can encompass both one-on-one communication as well as a formal partnership with the mass media.

Activity 4: New Places of Learning—In partnership with the total community, a systematic effort would be mounted to identify, develop, or initiate appropriate places of learning that go beyond the school setting to include other community resources, businesses, and organizations. These settings would be used to provide learning experiences and real world interaction that is not normally available in the traditional classroom setting.

Activity 5: Business Alliance—Form an education alliance with the business community of the state, similar to the Boston Compact, the California Business Roundtable, and/or Salt Lake City West High School's "Passport for Work." This alliance would provide input into the quality and kind of instruction being provided in public education, and would also allow businesses to become directly involved in providing certain types of training that would be unavailable in the school. An indirect benefit of the alliance would be increased awareness and support for tax expenditures for education, and its role in producing further economic development.

Activity 6: Data Collection—On a statewide basis (drawing upon national data where available), an in-depth research project should be conducted for the purpose of determining and quantifying the extent to which public education contributes to the state's economic well-being. Statistical comparisons should be made between the cost of extra help in the schools and prison expenses for those who fail to function properly in society. Once an informational baseline has been established, continual statistical monitoring should be maintained, aimed at measuring changes in education's level of contribution to the economy.

III. GOAL: Establish a curriculum and instructional delivery system that has measurable outcomes.

Competencies differ from academic requirements. Problem solving can be taught and learned in several courses. The challenge is implementing curricula which empower students.

—Marvin Cetron

Activity 1: Curricula with Purpose—Examine the current Utah State Core Curriculum to ensure that it is focused on purpose and outcome; make corrections where such purpose and focus do not exist, and identify the most efficient tools and delivery systems for teaching the accomplishment-based curriculum in each area.

Activity 2: State Textbook Adoption Process—On a statewide basis, insure that textbook adoption focuses on accomplishment-based outcomes that students are to achieve, and skills they are to learn. Support this system with criterion-referenced tests assessing the outcomes.

Since teachers tied to textbooks can pose the most serious single obstacle to an outcome-based system, the present reliance on textbooks should be vastly diminished.

Activity 3: Learning and Learning Styles—In each school, implement an in-service program that updates educators on current findings about how learning takes place, how to work with the individual learning styles of students, and which instructional strategies and methods to use with each learning style.

Activity 4: Technological Support—Implement at the school site level hardware and software support systems that improve a teacher's ability to collect data on student progress and status, and use that information to gear a student's pace through the curricula, based on the student's learning style and intellectual development.

Activity 5: Self-Directed Learners—As part of each Student Education Plan, set a goal, in partnership with the student's parents, to assist the student in becoming a self-directed learner—both during formal schooling and throughout the student's life.

Activity 6: Integrated Interdisciplinary Skill/Competency—At the secondary school level, integrate the purposes of the curricula so that they naturally become interdisciplinary, enhancing the student's ability to relate each curriculum to other curricula. Thus, the student would be able to see, for example, the natural connections between history and art, math, science, political science, or other areas of intellectual inquiry.

IV. GOAL: Ensure that every school is an effective learning center with a positive learning climate.

Activity 1: Implement Effective School/Classroom Practices—In every school, implement a common set of effective school/ classroom practices, through an extensive in-service program for all educators (including school board members), ongoing technical support, and by monitoring the program as part of the state's school accreditation process.

Activity 2: Character Education—Implement, in every school, as part of the accomplishment-based curriculum, a set of character traits and values that are parallel to and can be combined with the academic core.

Activity 3: Decision-Making Data—In every school, implement systems supported by technology that will improve a teacher's ability to efficiently and continuously collect student progress data. With such systems in place, immediate course corrections could be implemented for a student so he or she could be guided to learn the skills and competencies necessary to accomplish the purposes of his or her Student Education Plan.

Activity 4: School-Based Improvement—Implement a multi-year, statewide, school-based improvement program that has student success in academic achievement as its primary goal. **Since teachers are the persons primarily responsible for academic achievement of students, they would assume the leading role in this activity.** Teachers, through technology, would gather the data, design the process to make the academic decisions, and participate in the final decision-making processes. Teachers would have the responsibility to implement the decisions, market and communicate the decisions, and be accountable for the results.

Activity 5: Magnet Schools—Create, on a pilot basis, magnet schools that will attract students from pre-kindergarten through adults. Such schools will provide specialized opportunities to enhance the learning of the students attending them. This activity will support changing family demographics, complement effective use of technology, provide new roles for schools in adult training and job retraining, and will serve as a viable option to the impending problem of crowded Utah colleges and universities.

Activity 6: Career Preparation—As part of the accomplishment-based curriculum, establish job preparation as an important part of many courses. Career preparation is accomplished largely through the processes by which we learn—evaluation and analysis, critical thinking, problem solving, organization and reference, creativity, decision making, and communication skills. In order to create the most beneficial and cost effective job preparation

Clearly, schools can raise the test scores of all children. That evidence continues to mount. But, the public expects more from schools than test scores.

—Larry Cuban

system, high school students would complete a job-specific training program after completing the accomplishment-based curriculum. Job-specific training would be provided in partnership with the business community.

Activity 7: Increased Use of Schools—Because of economic necessity and the increasing need to provide more learning options for Utah's changing society, implement new Community Education pilot projects to enable schools to be used beyond normal school hours. Such programs will accommodate dual career households, families needing quality preschool and "late in the day" care, as well as job training for adults during the hours before and after regular use times. All services would be paid for by the user, and any excess funds would remain with the school to be used to improve all education programs operating in the school.

V. GOAL: Increase the sensitivity, effectiveness, efficiency, and satisfaction of teachers, administrators, and other educational professionals.

Activity 1: Competencies for Teaching—Districts should use a set of established competencies as a criterion for employment decisions. Persons wishing to be employed as teachers in public education would be required to demonstrate competency in these areas. Existing teachers should be involved in the selection, training, and evaluation processes.

Activity 2: Differentiated Staffing—Using *Utah's Career Ladder Five Year Strategic Plan (1988-1993)* as the means to move toward a fully integrated differentiated system of staffing, with different pay for different responsibilities, design a school staffing model for Utah's schools that (a) productively uses all types of technology, (b) defines and appropriately restructures management responsibilities in relation to the increased roles of teachers, (c) encourages increased professionalism, including accountability and opportunities for mobility, job sharing, varied work schedules, providing the chance for some teachers to work in both public education and the business world at the same time.

Activity 3: New Roles in the System—Implement pilot projects that focus on: (a) how work configurations can be more productive; (b) how instructional directors can work with multiple building staffs; (c) ways staff members trained in student assessment and teachers can use the SEP as the foundation for working with students, teachers, and parents in evaluating and prescribing instructional strategies; and (d) how assessment personnel can best work with instructional directors and teachers to adjust student/teacher ratios, reallocate instructional resources, and shift students to instructional experiences that will enrich their skills or remedy deficiencies. Such pilot projects would be driven by shared decision-making systems, process leadership, and reassignment of existing personnel. Strong emphasis would be given to equipping teachers to explore the potential of each student, breaking hindering mind-sets and stereotypes.

Activity 4: Salaries—Restructure salaries to support the differentiated staffing and new roles of the system. Couple the salary system with incentives and rewards based on both the *quality* and *quantity* of performance.

Activity 5: Personnel Evaluation—Establish performance-based evaluation systems at all levels, keyed to the changes outlined in Activity 4.

Activity 6: Teacher Shortage—Implement systems on a statewide basis to deal with teacher shortages and training in different subject areas. These would be aimed at finding solutions through

The need for employees who are broader-based intellectually, even at the entry and bottom level, has gone up tremendously at a time when the education system is essentially failing for the bottom half of our students. . . . It's not higher levels of the old-time religion that are required (reading, writing, arithmetic), it's new interpersonal skills, teamwork skills, logic skills, the ability to learn, problem-solving skills, critical thinking skills.

—Curtis E. Plott

a combination of technology, privatization, retraining, and improving current teacher training programs.

Activity 7: Technology—Provide appropriate technology to support the quality and quantity of contribution that will come from a more productive education force.

Activity 8: Improved Data Base—Develop systems at the school level that will provide teachers with the data needed to make informed decisions about student learning and needs.

Activity 9: Training and Certification—Revise teacher preparation programs to accommodate the needs of the individual school districts. For example, the school district would provide skill training and system orientation during the last year of the post-secondary training experience, under the direction of a master teacher. The Utah State Board of Education would certify teachers based on the recommendation from the master teacher, a certification review team, and the school district.

VI. GOAL: Increase productivity and learning through technology.

Throughout history, every significant increase in human productivity has involved the better use of better tools.

—R. Bennett

Activity 1: Instructional Technology —Provide funding, equipment, training, and software so that every school can take full advantage of technology that will provide better support for instruction, assessment, data gathering, management, and learning that takes place away from the school proper.

Activity 2: Electronic Instruction—Use electronic instruction to individualize learning, increase opportunity, attain greater cost efficiency, and improve management.

Activity 3: Alternatives to Textbooks—Examine technological alternatives to textbooks, seeking to reduce the time involvement in the change cycle, and support curricula with media that can be updated quickly and inexpensively. (This is an area where higher "up-front" costs can produce significant savings later on.)