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ABSTRACT

During the 1989 Arkansas legislative session, an act was passed mandating the Arkansas Office of Accountability to publish annual reports on school performance. To help educators deal with issues related to systems of educational effectiveness indicators, a seminar for educational stakeholders to ask questions and offer comments about developing an indicator system was held. Advice, counsel, and exemplars offered by speakers are presented in five parts. Section 1 defines indicators as information collected to measure educational effectiveness. Indicators must not be too complex or simplistic and should be collected, reported, and compared over time. Qualities of educational indicators include statistical validity and understandability. Strengths and limitations of indicator systems are addressed. Section 2 describes how using indicators to support school improvement can lead to unintended circumstances such as narrowing curriculum. Effects of such consequences can be mitigated by avoiding practices such as drawing simplistic conclusions from data. Section 3 addresses issues of data collection. Examples of Connecticut, Louisiana, and South Carolina state indicator systems are included in section 4. The process for implementing an indicator system in Arkansas is described in section 5. The appendixes include Arkansas legislation and a participants' worksheet comparing state board of education goals and accountability seminar goals. (8 references) (EJS)

Developing an Educational Indicators System for School Improvement in Arkansas

Proceedings of An Invitational Seminar

October 1990

Southwest Educational Development Laboratory

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Developing an Educational Indicators System for School Improvement in Arkansas

Proceedings of
An Invitational Seminar

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Acknowledgments

Designing an educational indicator system is a formidable task because it is difficult to measure people's hopes and dreams for their children.

Hillary Rodham Clinton

The people of Arkansas do share hopes and dreams for their children and about the schools they attend. Developing an indicator system is only one of the things they are doing to help improve the quality of education in their state. The Southwest Educational Development Laboratory (SEDL) is honored to have worked with the educators, policymakers, and people of Arkansas in launching this important project.

We want to thank Dr. Burton Elliott, director of General Education and staff members of the State Department of Education, especially Brenda Matthews and Linda James. Thanks also to members of Governor Clinton's staff, Representative Gloria Cabe and Dr. Kathy Van Laningham, for their suggestions in planning the two-day seminar. We also would like to thank Dr. Ruth Steele and Dr. Herb Cleek of Little Rock School District and Jane Armstrong of the Education Commission of the States (ECS) for their comments and guidance as we were framing and planning the conference format. For their vision, we thank Senator David Malone and Representative Jodie Mahony, co-chairmen of the Joint Interim Oversight Subcommittee.

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Executive Summary

During the regular legislative session in 1989, the 77th General Assembly of the State of Arkansas passed Act 668, the "School Report Cards Act," which mandates that beginning in 1990, the Office of Accountability will publish an annual report on the performance of each public school district "and/or where feasible each school within a school district."

To begin to deal with the issues related to indicator systems, the Arkansas State Board of Education, the Arkansas Department of General Education, and the Joint Interim Oversight Subcommittee on Educational Reform co-sponsored a two-day, invitational seminar entitled, "Developing an Educational Indicators System for School Improvement in Arkansas" with the Southwest Educational Development Laboratory in September, 1989. This document is the proceedings of that two-day meeting. It is designed for state and local education decisionmakers who are considering or developing an indicator system. Although the focus is on Arkansas, the information, which is presented in a practical, non-technical way, is applicable to any state context.

Following is a capsule of each of the five sections explored in this proceedings document.

I. What Indicators Are and What They Can Do

During the waves of reform of the 1980s the level of funding to public education increased in many states. That increase of public funds to education was accompanied by an increased level of interest and activity among state-level policymakers and the public in education-related decisionmaking. Education's more active constituencies began to require better data to help frame questions and make decisions regarding the effectiveness of their state and local education systems.

Generally, for education information to be useful to and used by readers and constituents, it should meet the following tenets: (1) It should be presented so that it "meets a middle ground;" it cannot be too complex or too simplistic; (2) it should be collected and reported over time; and (3) it should be compared over time.

Specifically, if the information to be collected and used are education indicators, "utility is the key." Designers of indicator systems should consider the following:

- The state's own policy objectives. What are the purposes of using the information? What do we want to accomplish with these education indicators? What do we want them to do for education in this state?

- The state's context of its education system.

Education indicators must have the following qualities.

- Be statistically valid information related to significant aspects of the education system.
- Offer benchmarks for measuring progress or regression over time.
- Represent policy issues or aspects of education that might be altered by policy decisions.
- Be easily understood by a broad array of citizens concerned with education.

Strengths and Limitations of Indicator Systems

Education indicator systems can provide information to support state and local efforts for school improvement. They can:

- show performance of the entire education system and its parts.
- show dimensions of the system that are related to performance over time.
- provide data for diagnosis and **possible** causes.
- flag any inequities or problem areas in the system that might need to be investigated and addressed.

Indicators, however, cannot:

- meet all of the education system's data gathering and reporting needs.
- portray the entire education system perfectly; the indicator system should be targeted to the greatest policy concerns of key decisionmakers.
- prove what works. Indicator systems can suggest correlations between inputs and outputs; they cannot prove a cause-and-effect relationship.

II. Using Indicators to Support Local School Improvement

An indicator system may be designed with the intent to provide information to educators, policymakers, and the public to help them improve teaching and learning in schools. But no matter how well an indicator system is designed, it can lead to the following unintended consequences:

- Narrowing curriculum
- Creating undue paperwork
- Wasting scarce resources on unneeded data

Designers of local indicator systems can anticipate and perhaps mediate the effect of these consequences by doing the following:

- Carefully weigh the benefits and costs of the kinds of data to be collected.
- Avoid providing simplistic conclusions about parts of the education system, such as test scores and curriculum. Using review teams to gather qualitative data is one way of examining relationships between different parts of the system.
- Gather in-depth information; involve both schools and school districts in the process. Use focus groups to bring teachers and administrators together to learn what their needs are and thus avoid collecting unneeded data.
- Experiment with a variety of indicator systems, including models borrowed from business.

South Carolina is one state that has developed its system to support local school improvement planning as well as to report on the statewide system. To engage local stakeholders, the South Carolina system involved thousands of people in identifying the state's educational needs through regional forums, toll-free hotlines, and the creation of two blue-ribbon committees made up of educators, business leaders, and legislators. This system was guided by a philosophy to shift decision making as much as possible to the local level and includes the following "mechanisms for improvement": school improvement councils, incentive reward program, school report cards, flexibility plans, and intervention/technical assistance.

III. Data Management: Collecting, Analyzing, Reporting Indicators

These processes comprise the core of an indicator system and are technically demanding. A state must design and develop an indicator system that is peculiar to the basic structures within its educational system. The following issues of data collection, however, cross any state boundary:

- Interpreting legislation for management
- Determining the range of purposes
- Creating organization for data collection
- Ensuring data quality
- Providing mechanisms for change
- Taking advantage of technology
- Ensuring security
- Seeking funding
- Easing the data burden

Depending on the purposes of the indicator system and the policy questions to be answered, any of several techniques may be used to analyze data. Because of the

technical complexity of data analysis, explicit discussion of that topic was not within the scope of this conference.

The final step is reporting the results of data analysis. Several considerations are important in producing reports that will be useful to different audiences:

- Consider the audience in different formats.
- Summarize and organize the data.
- Provide a discussion of the analysis of the data.

IV. Examples of Indicator Systems

As states begin to design an indicator system, decisionmakers must first decide on the purposes of the system. Then they must address the following questions:

- What indicators will be collected?
- At which level will data be collected?
- How will the data be analyzed? Will schools be compared?
- At what level will information be reported?
- Will there be policy consequences—awards, sanctions, assistance?

States have chosen different ways to define their purposes and to address the five questions. Central to an indicator system is determining the level of responsibility for all or any part of the system. The relationship between the state and a local district is reflected in the degree of centralization of decisionmaking and in the locus of responsibility for the various activities of collecting, analyzing, and reporting data. Connecticut's indicator system, for example, has a high degree of local decisionmaking; the Louisiana and South Carolina systems have a more centralized, state-level orientation.

V. Implementing an Indicator System in Arkansas

Making sure an indicator system works for Arkansas is part of the role of the State Board of Education, according to State Board member Nancy Wood. Education decisionmakers in Arkansas must:

- Define what's important.
- Measure what's important.
- Compare what's important.
- Tell what's important.
- Change when it's important.
- Pay for what's important.

Information reported as part of an indicator system can have broad and far-ranging benefit for members of a local community and their schools. For instance, an indicator system can:

- generate support for needed improvements.
- define for the public, educators, and legislators, the state's education goals.
- demonstrate the efforts that educators and education decisionmakers are making to address problems.
- return some faith in the system first to educators, then to policymakers, and finally to the public itself.

Introduction

During the regular legislative session in 1989, the 77th General Assembly of the State of Arkansas passed Act 668, the "School Report Cards Act," which mandates that beginning in 1990, the Office of Accountability will publish an annual report on the performance of each public school district "and/or where feasible each school within a school district." (For more information see Appendix A.)

Developing an indicator system is a technically and politically complex process. To help members of the education community begin to deal with the issues related to indicator systems, the Arkansas State Board of Education, the Arkansas Department of General Education, and the Joint Interim Oversight Subcommittee on Educational Reform co-sponsored a two-day, invitational seminar entitled, "Developing an Educational Indicators System for School Improvement in Arkansas" with the Southwest Educational Development Laboratory in September, 1989.

This document is the proceedings of that two-day meeting. Its purpose is to record the comments of the expert panelists and participants, as well as to serve as a guidebook for state and local education decisionmakers and policymakers who are considering or developing an accountability system for their state. Although the focus is on Arkansas, the information about education indicators, which is presented in a non-technical way, is applicable to any state context.

The Context of Accountability in Arkansas and the Nation

During the 1980s, school reforms in the South were comprehensive, but only a few states set specific goals or designed methods for tracking progress toward those goals, according to Lynn Cornett, director of State Services of the Southern Regional Education Board. Arkansas is one of the states that is taking such steps. As decisionmakers begin to talk about designing an indicators system, they need to ask two questions:

> Do you know where you want Arkansas to be in the year 2000?
> Do you have ways of knowing if you are on the right track?

Too often, Cornett said, the answers are "No." And educational improvement is a long-term proposition that will take substantial and sustained support. Trying to rally public dollars simply by saying that schools and colleges are working harder is not a sufficient strategy for rallying the needed sustained support. To help decisionmakers consider the two questions, she described some trends projected for the state by the year 2000.

Projected Trends for Arkansas for the Year 2000

Demographic changes include:

- More people over the age of 65; fewer in the under-30 age group
- More families without school-age children

- Fewer elementary and secondary school students

- Fewer students attending colleges and universities

Education policy will have little effect on such projected demographic trends; however, it can respond to employment and educational trends such as the following:

- Agricultural employment is projected to decline by 27%.

- Seventy-five percent of new employment opportunities will be in two sectors: service and trade.

- A greater number of jobs will require more education and higher level skills.

- Ninety percent of the new jobs are expected to fall into occupational groups that require at least a high school education. At least two-thirds of them will require training beyond high school.

- About 71% of Arkansans are projected to have completed high school. If this trend does not change, the completion rate will fall short of the Arkansas state board goal of 85%.

- Thirty-two percent of Arkansans are projected to complete some education beyond high school. That is compared to 42% in the South and 46% in the nation.

What effect these trends will actually have on education in Arkansas depends on what education decisionmakers do to set goals, measure progress, and work to improve educational opportunities. As education decisionmakers begin to look at their goals and measure their progress toward them they must ask: Why work for a better system of accountability? Why have a division of accountability? Why report cards? The answer is: to collect information that will help policymakers make decisions that will improve their education system.

If current trends continue, fewer families will have children in schools in the state. Education also will be competing with other programs—corrections, aging, social services, and health—for scarce dollars in all states. General funds will no longer be given to education in hopes that schools will take it and "do good." Instead, monies will be targeted toward specific programs that can make the case for their effectiveness. And educators will need good information to help them make their case.

Within that context, the 77th General Assembly of the State of Arkansas passed Act 668, the "School Report Cards Act," during the regular legislative session in 1989. That legislation established:

- an Office of Accountability within the State Department of Education (subject to new revenues being provided to the department for its operation),

- a statewide Advisory Committee on Accountability, and

- a Joint Interim Oversight Subcommittee on Educational Reform of the Joint Interim Committee on Education.

The bill mandates that beginning in 1990, the Office of Accountability will publish an annual report on the performance of each public school district "and/or where feasible each school within a school district." These reports, called "school report cards," will measure the district or school's performance against a set of statewide standards for comparable school districts and schools. The report cards will be published in a format that can be easily understood by all readers—business people, parents, students, policymakers, and any members of the public who are not education professionals. In addition, the Office of Accountability is required to:

- develop an automated data system for financial and educational reporting by schools and school districts to the State Department of Education.

- develop longitudinal student and school information for planning purposes.

- provide information on schooling to the public and media on a regular and timely basis.

- reduce the number of reports required by the Department of Education.

- work cooperatively with other divisions of the Department of Education as well as other state agencies on researching issues of education concern.

The Advisory Committee on Accountability, which is comprised of representatives from a wide range of education stakeholders, will assist the Office of Accountability and the State Board of Education on matters relating to the development and implementation of accountability mechanisms. The Advisory Committee will submit an annual report of its efforts and concerns to the State Board of Education and the Joint Interim Committee on Education.

The Joint Interim Oversight Subcommittee on Education Reform of the Joint Interim Committee on Education includes one Senator and one Representative from each of the following standing legislative committees: Revenue and Taxation, Legislative Joint Auditing, and the Legislative Council. Four members (two Senators and two Representatives) from the Joint Interim Committee on Education also serve on this panel. The Subcommittee is charged with, but not limited to, the following duties:

- Review of the Office of Accountability

- Review of issues affecting education reform and release of a report to the Joint Interim Committee on Education on or before October 15th of the year preceding a regularly scheduled legislative session

- Sponsorship, in coordination with the Department of Education, of innovative education reform projects

Informing the Public About Its Investment in Education

The General Assembly created these accountability measures to "enhance the public access to public school performance indicators and to better measure the dividends paid on the increasing public investment in Arkansas' schools." Arkansas policymakers have not been alone in their concern about the return on taxpayers' investment in public education. During the 1980s,

> In virtually every state, the reform movement resulted in new legislation or state board regulation designed to...enhance knowledge about school performance. These reforms signaled an unprecedented level of state activity. They increased the proportion of funding provided by the states.
> (Fuhrman & Elmore, 1990, p. 82)

As public funds have increased in the education sector, so has public demand for accountability. Keeping the public informed about the performance of the school systems is more than simply an issue of oversight; it is part of the democratic tradition of public schooling. An informed citizenry holds a common interest, right, and responsibility for supporting its state and local school systems. Those same school systems have a mutual right and responsibility to account for their actions to their broad constituency.

To help the public at large and school systems discharge their responsibilities to and for each other, states have started to develop and use systems of collecting and reporting information about the performance of their school systems. Policymakers, educators, and other concerned members of local districts may use such information to make decisions (or demands) about improvements to be made in their education systems. States have used many mechanisms for generating information about public education: financial accounts, student attendance records, staffing and personnel loads, test scores and so on. Although consensus seems to exist nationally that such information systems are useful, "little consensus exists about the kinds of specific data that should be collected or about how to report and use those data to hold schools accountable" (OERI, 1988, p.1). "The key to developing indicators of the health of your public education system is deciding what you want your indicators to do for the state," said Ramsay Selden, director of the State Assessment Center at the Council of Chief State School Officers.

About the Conference

The purpose of this invitational conference was to provide a forum for education stakeholders from all sectors across the state—community, business, educators, and policymakers—to ask questions and offer comments about developing an indicator system for Arkansas. The invited audience included members of the state Advisory Committee on Accountability, legislators, state and local education decisionmakers, business and civic leaders. More than 200 people attended the two-day meeting to get an overview of issues related to statewide data collection/accountability systems

As one of the co-sponsors, the Southwest Educational Development Laboratory invited education researchers and practitioners who are working to develop indicator systems to talk about the promises and the pitfalls of a statewide education indicators system. On the first day of the conference, panels of distinguished speakers presented a non-technical overview of issues related to conceiving, designing, developing, and implementing an indicator system. Those issues ranged from deciding the range of purposes for indicators to collecting, analyzing, and reporting on the indicators.

That evening First Lady Hillary Rodham Clinton addressed members of the audience. She enjoined them to proceed, but proceed carefully and thoughtfully. She cautioned them to consider such a system as a constantly evolving process that should be changed when it becomes outmoded or less useful. During the second day, representatives from the stakeholder groups defined their goals for Arkansas's education system and began a dialogue about potential indicators. They listed their own and/or the State Board of Education's goals, then generated a list of suggested or potential indicators that would correspond with those goals (see Appendix B).

About This Proceedings Document

This document is designed for state and local policymakers who are considering or developing an indicator system for their states. It captures the very practical words of conference speakers to suggest a process for thinking about indicators and the components of an indicator system. It may also serve as a guidebook for readers who are involved in developing an indicator system, but who do not have a background in the technical aspects of statistics or data collection. Woven throughout the text of the proceedings are the collective wisdom and real-life experiences of the speakers (see Appendix C).

The advice, counsel, and exemplars offered by speakers are presented in a non-technical, linear way as follows:

Section I:	What Indicators Are and What They Can Do
Section II:	Using Indicators to Support Local School Improvement
Section III:	Data Management: Collecting, Analyzing, Reporting Indicators
Section IV:	Examples of Indicator Systems
Section V:	Implementing an Indicator System in Arkansas
Section VI:	Where Do We Go From Here?

In Section I, Lynn Cornett opened with a discussion of the growing need among educators, policymakers, and the public for good information about education and how indicators can help provide that good information. Ramsay Selden described indicators and defined their potential and their limitations.

Section II focuses on developing indicators from the local viewpoint—how they fit within school and district schemes to improve education. Drawing on her research in school restructuring, Jane David addressed "what it takes for schools to change" and how those needs relate to accountability. In addition, she suggested ways to minimize the negative effects an indicators system can cause. Terry Peterson followed with examples

from South Carolina of school improvement programs that have benefitted from including indicators in their designs.

As states define goals for their education systems, and identify or develop indicators, they must also establish the operations for managing data—collecting, analyzing, and retrieving data, and reporting about their indicators. In Section III, Lynn Moak discussed some of the issues related to ensuring accuracy and consistency of data to be collected. Ellen Still highlighted the issues—political and practical—of reporting about indicators to multiple audiences.

Although the entire proceedings captures the experiences of the speakers, Section IV focuses on the different contexts of several states and, consequently, on their varying approaches to accountability and performance indicators. Ramsay Selden described the nationwide system being implemented by the Council of Chief State School Officers. Sharing his knowledge of three highly different states, Connecticut, Louisiana, and South Carolina, Terry Peterson pointed out how important it is to decide at which level of the system, state or local, will lie the responsibility for collecting, analyzing, and reporting education indicators.

The experiences of other organizations and states are highly valuable for comparison and the lessons they offer, but as Terry Peterson said, "If it doesn't fit Arkansas it's probably not going to work." In Section V, Nancy Wood, a member of the Arkansas State Board of Education, framed the process for Arkansas. Ellen Still and Bill Youngblood drew on lessons learned from South Carolina's experience to describe how the implementation of an indicators might support both school improvement and economic development in Arkansas.

Section VI captures the dialogue of the final session. Moderated by Ramsay Selden, it was an exchange of questions, comments, and ideas between the audience and the panel. The audience and panelists addressed such topics as:

- How do indicators support or "mesh" with other school improvement efforts in Arkansas?
- How would an accountability system mesh with the state standards for accreditation?
- How do we evaluate the quality of indicators with an accountability system?
- How would an office of accountability be managed to address resource burden?

I. What Indicators Are and What They Can Do

Information about education—or the need for such information—has driven the recent movement toward accountability. During the past decade, policymakers' needs and uses of information changed. Early in the 80s, general information about simple dropout rates and SAT scores was enough to fuel the concerns and action that led to education reform in many states. Now that states have progressed beyond initial reform, they need better data to show that progress is taking place.

What Constitutes Good Information?

Although a lot of information about education exists, much of it may not be good information for potential users. "Right now, a serious gap exists in information," Cornett warned. Cornett, who is director of State Services of the Southern Regional Education Board, said, "Education decisionmakers, policymakers, and the public have no confidence in information." To increase consumer confidence in education-related information and to ensure that it is used, Cornett offers three tenets:

- Present information so that it "meets a middle ground." It cannot be too complex or too simplistic.

- Collect and report information across time.

- Compare information over time. Districts and state must be able to track their progress over time to compare their progress or regression against their goals. About 10 years ago, the Gallup Poll showed that the public was against comparing schools to a national standard. The 1989 Gallup Poll reports that 70% of the public want their educational systems to conform to national standards and national goals. But when data such as dropout rates are not comparable, misunderstanding and ineffective policies may arise.

"In developing a set of education indicators, as Arkansas is doing, the key is to decide which indicators are going to be useful for the state. What are your purposes? What do you want to accomplish with these education indicators? What do you want them to do for education in Arkansas?" Cornett advised.

Utility is the key, agreed Ramsay Selden, director of the State Evaluation Center of the Council of Chief State School Officers. "There is no magic, national design for education indicators that will help drive your education system if you adopt it," Selden pointed out. Decisions about which indicators should be collected, how they should be collected, or how they should be used must be made by each state given (1) its own policy objectives and (2) the context of its own education system.

Before discussing various uses of education indicators to inform policy, Selden described five qualities of indicators:

- **Indicators are based on statistically valid information related to significant aspects of the education system.** They may be single or composite statistics. Single statistics that might be indicators of some part of the education system include class size, instructional expenditures, or the average salary of a teacher with a master's degree and five years of teaching experience (Oakes, 1986, p. 3).

  A composite indicator "measures and reports on combinations of related events or characteristics" (Oakes, 1986, p. 3) that are too complex to be measured by a single statistic. For example, the Bureau of Labor Statistics compiles the Gross National Product (GNP) from the value of all goods and services produced. The U.S. Department of Education also produces a composite index of states' "educational needs" by combining measures of students' socioeconomic characteristics such as percent of children in poverty, percent of limited-English proficient children, and percent of handicapped children (Oakes, 1986, p. 4).

- **Indicators are comprised of reliable data.** That is, the data upon which indicators are based are accurate (i.e., if the data were collected a second time, the same results would emerge).

- **Indicators offer benchmarks for measuring progress or regression over time.** They can be **compared** and **interpreted** in different ways: (1) making comparisons among schools, school districts, states, or nations; (2) looking at performance at an individual school, school district, state, or nation; or (3) setting a standard and reporting performance in relationship to that standard.

- **Indicators represent policy issues or aspects of education that might be altered by policy decisions.** A key feature of indicators is that they provide information that is relevant and appropriate for making advised policy decisions. Information may be valid, accurate, and available, but it might not answer policy questions. Education decisionmakers must ask, "What are the policy questions this state wants to address with its data system?" The issue becomes one of information selection rather than information creation.

- **Indicators are easily understood by a broad array of citizens concerned with education.** Education indicators can communicate powerfully about the health of the education system to the public, the media, and policymakers.

In summary, Selden said that indicators must meet the following **substantive** criteria that Oakes (1986) defined in *Educational Indicators: A Guide for Policymakers*:

- Measure the performance of the system—the outcomes or the outputs of the system (e.g., achievement levels, dropout rates, attendance).

- Measure **some part** of the system that is linked to those outcomes. For example, if certain school practices are more successful in preventing

dropouts, then in addition to measuring dropout rates, you might want to assess whether schools have such practices or programs.

- Provide descriptive information about the dimensions of the system: How much money do we have? How many teachers do we have? How old are our school buildings? Such data are not proven to have a direct effect on achievement, but they may concern policymakers, because they are central dimensions of the educational system.

- Provide "problem-oriented information." That is, the indicators should flag an area of the system that needs attention. For example, do the indicators show that certain student groups are not doing as well as others? Such a result may suggest inequities in the school system. Policymakers can use such information to alert them to a pending problem.

In addition, indicators must meet all of the following set of **technical** criteria. The indicators should:

- Measure **ubiquitous features**. Per-pupil expenditures or pupil/teacher ratios are examples of available fiscal or human resources that can be measured throughout the school system by school building, district, state, nation, and even across nations. Educational indicators are not as useful if they deal with only a narrow part of a system.

- Measure **durable features**. These are features of the school system that exist year in and year out.

- **Be readily understood** by different audiences of readers.

- Be **feasible in terms of resources** required to collect, analyze, and report them. Information may not be cost effective if it requires too much staff time to collect or if it requires special expertise to analyze it. Decisionmakers must select the indicators that will be both informative and cost effective.

- Be **generally accepted as valid and reliable** measures. No indicator has gained universal acceptance. People will criticize educational indicators just as they pick at the consumer price index or unemployment figures.

What Indicator Systems Can and Cannot Do

"Developing indicator systems is a growth industry in education today because states have become more involved in educational policymaking," concluded Selden. "We have seen tremendous growth in student testing, teacher testing, and accountability reporting by the states." Indicators, however, do have limitations. He closed with a list of what indicators **can** and **cannot** do.

Criteria for Educational Indicators

Substantive Criteria*		
Quality	**Purpose**	**Example**
Measure the performance of the system	Show the progress or lack of progress of the system	Outcomes such as attendance, achievement levels, or dropout rates
Descriptive of features of system related to desired outcomes	"Leading indicators"—they can predict changes in the system, because when they change, other changes are likely to occur	Instructional time
Descriptive of central features of the system	Describe conditions that have unproven relationships to certain outcomes, but are needed tc understand the system	Curriculum offerings
Problem oriented	Provide information about current or pending problems in the system	Teacher supply and demand
	Technical Criteria**	
Quality	**Purpose**	**Example**
Measure *ubiquitous* features—those found throughout the system	Collect and compare information from different types and locales of schools	Pupil-teacher ratio as measure of human resources
Measure *enduring* features	Track and analyze trends over time	Number of courses required in mathematics for graduation
Be readily understood	Communicate to a broad audience	A four-page brochure compiled from a 500-page technical report
Be feasible in terms of cost, time, resources required to collect	Create a realistic indicator system	Informative, cost-effective indicators such as standardized test scores or attendance rates
Be generally accepted as *valid* and *reliable* statistics	Allow educators and policymakers to make decisions about the system insofar as they understand it	Standardized test scores, free/reduced lunch, or household income

*must meet at least one
**must meet all four

Source: Information adapted from J. Oakes, *Educational indicators: A guide for policymakers* (1986)

Indicators can:

- show performance of the entire education system and its parts.
- show dimensions of the system that are related to performance over time.
- provide data for diagnosis and **possible** causes.
- flag any inequities or problem areas in the system that might need to be investigated and addressed.

Indicators cannot:

- meet all of the education system's data gathering and reporting needs. The indicator system needs to meet a specialized function; it may not satisfy civil rights reporting, for example, or federal fiscal revenue reporting. One system cannot serve all purposes.
- portray the education system perfectly; there will be "some slip and mismatch." The indicator system should be targeted to the greatest policy concerns of key decisionmakers.
- prove what works. Though indicator systems can suggest correlations between inputs and outputs, they cannot prove a cause-and-effect relationship. They can provide policymakers with information to guide planning and decisionmaking, not to confirm causality.

Using Education Indicators

Policymakers can use indicators in several different ways to frame and address a state's policy questions: (1) in a model depicting the interrelationships of the components of the entire system, (2) in reports on individual units such as school buildings, districts, or regions, or (3) as an early warning system for pending problems or concerns.

Because a universally-accepted model of education does not exist, a state can choose the indicators that reflect the components of its education system. A model of a system, for example, might collect information about the following:

- Inputs (e.g., finances, teacher characteristics)
- Context variables of school districts (e.g., socioeconomic and demographic characteristics)
- Policies and practices
- Student output (e.g., student achievement)

(Shavelson, McDonnell, & Oakes, 1989)

With such a model of the overall system, policymakers might be able to use indicators of the various aspects of the system to keep track of it and to describe how the entire

system is performing. A model can be applied at any level—individual school, local district, or state.

Before they can design a system for using indicators, policymakers must first decide on the purposes of that system. Then, they must answer other questions:

- What indicators will be collected?
- At which level will data be collected?
- How will the data be analyzed? Will schools be compared?
- At what level will information be reported?
- Will there be policy consequences—awards, sanctions, assistance?

II. Using Indicators to Support Local School Improvement

"It's impossible to think about accountability," Jane David began, "without thinking about every aspect of the education system." As policymakers develop a state indicator system, they must consider the many layers and varied priorities at work at the local level. "From a local perspective," she said, "there is a very big difference between being inside a school and being a district."

Within the school, inside the classroom, "is where the real action is," she said. The essence of school improvement—and ultimately accountability—lies in teaching and learning. David emphasized that teachers need (1) access to up-to-date knowledge about how students learn (the process is not a linear progression, but an intricate linking together of basic skills and higher order thinking), (2) the time to learn, practice, and get feedback from that knowledge, and (3) the flexibility to change the way they teach. She stressed that indicator and accountability systems must be designed with these basic needs in mind.

Anticipating Unintended Consequences

No matter how well an indicator system is designed, it can lead to unintended consequences. David gave the analogy of what happened to airlines when they implemented an indicator system to determine whether planes were on schedule: "One of the first results was that planes [began to] pull back from the gate two feet. So there you sit for two hours instead of at the gate so they can be considered to have left on time."

As Arkansas gets its indicators system off the ground, David cautioned decisionmakers to remember, "You may think you are measuring something in order to improve it, when in fact, you are having a negative effect on it." She discussed three major concerns about using educational indicators: (1) narrowing curriculum, (2) creating undue paperwork, and (3) wasting scarce resources on unneeded data.

Concern #1: Narrowing Curriculum. What policymakers decide to measure—particularly through standardized tests—is what teachers concentrate on teaching. As a result, students may learn isolated skills and miss opportunities for other important or higher-order learning. David suggested the following ways to counteract these unwanted effects:

- When individual school results are published, include them with other districtwide and statewide data or contextual information to put them into a perspective. Avoid isolating a school's results, especially when their performance is tied to rewards or sanctions.

- Give districts and schools choice about how their achievement is measured.

- Provide multiple measures of achievement. For example, achievement test scores, grades on classroom assessments, and the courses taken can all describe a student's level of achievement.

- Respond to poor performance with help rather than punishment.
- Reward teachers and administrators for innovative solutions.
- Grant schools "flexibility in exchange for responsibility for results."

Concern #2: Creating Undue Paperwork. Acknowledging Arkansas's efforts to reduce the number of reports required by its schools, David recommended that the state's accountability system take advantage of existing reporting channels (for example, accreditation) rather than creating new ones: "There are ways of getting bigger bang from the buck if things are already out there and required." Additional reports, she stressed, can frequently translate into lost time for instructional activities.

Concern #3: Wasting Scarce Resources on Unneeded Data. Spend the money, David urged, but make sure the data you pay for are useful. Too often, policymakers cite data only to justify a position they already have. Data collection, she said, should suggest a relationship among the components of the system that ought to be investigated. "If you know the outcomes . . . went down, up, or stayed the same, but you don't know why, you don't have any guidance on what to change." Indicators cannot show causal relationships, but they can flag outcomes about which qualitative data might be gathered to learn why a certain outcome might have occurred.

One way to learn "why" is through the use of review teams. Such teams are a mechanism of the California School Improvement Program. Consisting of three teachers, a principal, and a central office administrator trained by the state for this task, the review team visits a neighboring school once every three or five years. (Approximately 20 percent of California schools are visited once each year.) The team spends several days at the school site interviewing teachers, observing classes, and examining student materials. After an extensive look at the strengths and weaknesses of the school, they compile their discoveries into a report. As a mechanism to supplement indicator data, David said, the review team packs a lot of power because it provides in-depth information to the school and an insightful learning experience for the reviewers at the same time.

David closed with the following advice:

- Carefully weigh the benefits and costs of the kinds of data you plan to collect. Beware of unintended consequences.
- Look at the "whys." Using review teams to gather qualitative data is one way of accomplishing this.
- Gather in-depth information; involve both schools and school districts in the process. Use focus groups to bring teachers and administrators together to help them ask hard questions and learn in detail what their problems are.
- Experiment with a variety of indicator systems, including models borrowed from business.

Five School Improvement Tools in South Carolina

South Carolina is an example of how one state has worked to support local school improvement efforts with its statewide indicator system. Terry Peterson pointed to two important aspects of South Carolina's early development of its system: (1) it involved thousands of people in identifying the state's educational needs through regional forums, toll-free hotlines, and the creation of two blue-ribbon committees made up of educators, business leaders, and legislators, and (2) it was guided by a philosophy to shift decision making as much as possible to the local level.

Peterson described five "mechanisms for improvement" that are part of South Carolina's accountability system: school improvement councils, school incentive award program, school report cards, flexibility plans, and intervention processes. The following are profiles of these strategies.

School Improvement Councils. These local councils, which involve 10,000 people statewide, share the following characteristics. They:

- operate at every school site.
- consist of parents and teachers elected by their respective peers, with some appointments made by the principal.
- develop an annual achievement plan and update it periodically.
- receive data and information by the school, at the state's request.
- receive an optional report card from the state that includes variables against which to measure its school's individual progress against that of similar schools.

These councils were initially required as part of the state's 1977 reform package. But they lacked focus, Peterson explained, because "There wasn't any call for looking at results or outcomes. They were told to do good things." Now that these councils are working with a set of indicators, they have become a powerful tool in the school change process. But they needed help getting there: "People underestimate the amount of help and guidance you need to provide to the school site. That's something you really need to build into your process."

School Incentive Reward Program. This monetary incentive program:

- grants incentive awards to schools that show progress compared to similar schools in peer group. (250 out of 1,100 receive awards each year; 40 to 50 percent are repeat recipients; 50 to 60 percent are new recipients.)
- makes awards directly to a school, which must use the award to fund its school improvement plan.

- is based on the results of both criterion- and norm-referenced tests.
- gives bonus awards for high student and teacher attendance: $30 per student (e.g., school of 1,000 students would receive an additional $30,000).
- is enhanced with non-monetary, symbolic awards.

Peterson emphasized the importance of the last item, "The symbolic way in which the dollars are given is very important to the [school] change process. According to s. ne of the people involved in the recognition program, those symbolic awards are about as important as the dollar awards." Principals are able to use the fact that a school has the potential of receiving an award to generate support for school improvement tactics that they have wanted to try.

School Report Card. The "report cards" are reporting mechanisms that:

- provide each school site with information about student performance, drop-out rate, and student and teacher attendance.
- longitudinally compare individual student achievement scores.
- include pre- and post-testing that yields a school gain index.
- use "comparison bands" that allow a school to match its performance with that of others having similar background characteristics.
- will eventually incorporate measures of higher order thinking skills.

Illustrating how the report cards have worked in South Carolina—and how indicators can open eyes—Terry Peterson relayed the following case history:

> I've seen the impact of [the report cards] on two schools two miles apart. One school, in a very affluent neighborhood, had long had the reputation of being a fantastic school. The principal had been very successful at keeping that stellar reputation, but people who had been in and out of that school weren't convinced. Now, the school down the road was a lot more blue collar with a mix of black and white kids. For some time, people going in and out of that school felt for that the school was really making progress.
>
> When the report cards came out of the state's five comparison groups, the affluent school in the peer group with the strongest financial background ended up in the bottom five percent of similar schools. For years that principal had been telling folks what a fantastic school they had. The other school was in the next peer group and in the top five percent. That placement really shook up folks in that school district and taught them to look and see what was really going on in both schools.

Flexibility plans. With the help of indicators, states can identify schools that have made substantial progress and reward them with increased flexibility. Peterson mentioned two proposed plans South Carolina is developing to accomplish this. One way is to exempt schools from substantial state regulation once they have met accreditation standards and made significant progress in student improvement. The other way is to grant schools seed money to create their own improvement plans. Funding would begin with small grants in the first year, followed by up to $90,000 in grants over a three-year period. As part of this agreement, the state would waive certain regulations schools felt were in the way of their new plans.

Intervention/technical assistance. Peterson reminded participants that indicators can be valuable tools to determine school health. But what do you do when your indicators show your school health is failing? In South Carolina, when districts exhibit continued low performance—with no gains on indicators such as achievement tests, dropout rate, attendance, and major areas of accreditation—the state places them in "impaired district status."

After designating a school as impaired, the state appoints a review team to visit the district, identify its problems, and develop a plan to remedy them. The state board reviews the improvement plan; if they approve it, the district must implement it. If the district fails to comply, it may lose funding as well as its superintendent.

None of the districts placed under this provision, Peterson explained, have had to suffer the latter sanctions; all have made substantial improvements. Generally the intervention process is a good method to prompt change in schools in critical situations; however, Peterson pointed out that the process has two major drawbacks: (1) a haunting label and (2) lack of intervention or technical assistance any time prior to the school's receiving the designation. According to Peterson, sanctions and external intervention should be a secondary consequence in using indicators to foster school improvement. He told participants, "The care and self-help approach is far superior."

III. Data Management: Collecting, Analyzing, Reporting Indicators

Just as the development of an indicators system is unique to each state, so is the creation of the data system to manage it. "If there's any lesson we've learned in trying to do what we've done thus far," Lynn Moak began, "it is that the system has to be a home-grown system built with the support of all the basic structures within your educational system."

Issues Related to Collecting Data

Using the design of the Texas system, Moak illustrated some fundamental issues that are applicable across state lines:

- Interpreting legislation for management
- Determining the range of purposes
- Creating organization for data collection
- Ensuring data quality
- Providing mechanisms for change
- Taking advantage of technology
- Ensuring security
- Seeking funding
- Easing the data burden

Interpreting legislation for data management. As state leaders cultivate legislation to enact an indicator system, they should be mindful of the effects their phrasing will have on data collection. "A very few words," Moak said, "end up meaning a great deal." He cited two examples:

- By putting the word "performance-based" in front of the word "accreditation," the Texas legislature transformed its data system for accreditation from a checklist of conditions to a search for underlying causes of high or low performance. This addition also created a demand for much more data.

- By inserting the words "school" and "program" before the words "financial accounting system," they changed the nature of their education accounting system, and more than that, the nature of local decision making.

Texas law requires an annual performance report for every school in the state (approximately 6,000), as well as an indicator system. The state's data management system collects the results of standardized test separately from other basic data. Then, all those data are brought together at the state level to comprise an indicator system. "We did not start out to build an indicator system per se," Moak explained, "but rather a comprehensive data system to supply a number of needs of our state." One of the main advantages of this approach, Moak said, is that it allows school officials and legislators to discuss the indicator system as a single entity. This is particularly helpful, he added, when talking about how the system is funded.

Determining the range of purposes. Next, Moak suggested that decisionmakers determine whether they will design the system for all—or for most—purposes related to educational data collection in the state, or will its purpose be purely for collecting indicators, so that data collection—and new requirements for data collection—will be very specific. In answering these questions, decisionmakers should consider whether this information relates to accreditation or for more general purposes such as report cards. Accreditation reports require a much greater amount of information, therefore an expanded system.

Organizing for data collection. Other suggestions are as follows. Establish an organization for data collection within the state department before the system is implemented. Clarify the role of independent data collections—in particular, any assessment instruments that might be used for student performance—that will not be part of the new system. Enlist key participants (for example, regional units) early in the planning.

Ensuring data quality. The following four basic steps will help address data quality in the design of a data collection system:

- Set a detailed data standard. The state must be able to clearly communicate the data elements to the people who will actually be designing the system, and manually putting the data into it. "Trying to communicate those standards," Moak said, "is one of the things, unfortunately, that create 45-page manuals on documentation."

- Be ready to provide a variety of technical assistance to school personnel. Know what their existing data systems have available, and how they will need to modify them to meet new state standards.

- Allow for proper editing and clean-up of the data prior to its publication and use. Texas uses staff from the regional education service centers to accomplish that task.

- If it is a mandatory system, build in some way to assure compliance. Articulate a state position or penalty for failure of a school to report. This may not have to be enforced often, but it has to be there in case. Texas ties compliance to state aid: if a district refuses to enter the system or report its data, the state withholds its funding.

Creating mechanisms for change. "Keep in mind that you are creating only the first year's system; it will change," said Moak. Build in procedures to accommodate those changes. Include a calendar that provides school districts with lead time to make conversions. Let personnel know what kinds of changes to expect.

Taking advantage of technology. Education, like most fields, is still heavily tied to forms and reports. Yet present computer technology offers immense storage and processing capabilities. As an example, Moak said he could take several data elements for every student in Arkansas, plus personnel records for every professional person in the

state, plus a little data left over—and store it all on one basic CD/ROM disk. Given the huge capacity computers offer and the problem of overwhelming paperwork, designers and users of an indicator system should take full advantage of this technology.

Ensuring security. Because most of the data will come from confidential sources—student records and personnel files—strong safeguards must be in place to prevent improper access. The better assurance schools have that their information will be safe, Moak said, the more willing they will be to meet data standards.

Seeking funding. An indicator system demands a substantial front-end cost, which may be compensated by long-term savings generated by standardization. Moak urged policymakers to look at funding at all levels and to pay particular attention to the local level: "It's one thing to fund a computer system or indicator system at the state level, but it's quite another thing in terms of local costs that have to be incurred in order to transmit data into that system." He emphasized that state policymakers need to recognize that local districts will carry some burden of cost and reflect those local expenses in the funding formula.

Easing the data burden. Moak reminded participants that in most cases, the data are already in the records; the burden is in putting them together. Most data that come into an indicator system start out as part of student, personnel, or financial data records in a school district. In most indicator systems, the greatest amount of work is in getting the data to a central point (such as the state education agency) because someone has to compile it at the local level. Staff members must program the computer, write the software, create the aggregation process, and possibly prepare a special report.

Texas, like some other states, has taken an approach to simplifying data collection and easing the burden in time and resources for local school districts. Instead of requiring the district to collect, compile, and write special reports on the data, Moak recommends moving the data elements directly from the local level to the state level, whether the information is for general accounting, personnel, or student data:

> We literally bring general ledger accounts directly off the general ledgers of school districts—no need for additional aggregations—just bring the ledger account into a data record and install it in the relational database. For personnel records, we are establishing a basic data standard of what we want to know about each person: their salary, their teaching assignments, and other elements. All that information exists at the local level. We don't ask the district to aggregate those data or to create a special report, but we ask that they transmit that personnel record to a central computer. We've already done this for our testing program; this spring we will bring in our first level of individual student data in other areas.

The tradeoff in this approach is that districts must exert some additional effort in sending the original data to the state, but they do not have the effort of aggregating the data before sending them or writing special reports such as annual performance reports.

This collection method creates a vast array of information from which the state can draw a variety of indicators. To be successful, however, it must also provide a payback to the district. "If we were only building a data system for the state to use," Moak said, "we would never have been able to build this. Districts must see a benefit for this information. Our payback to the districts is that the state transmits substantial amounts of information back to them," Moak explained. Local districts can use that information in their own planning or for measuring their progress on school improvement.

Analyzing Data for the Use of Indicators

The next step is to analyze the data. Because data analysis is a highly technical topic, detailed discussion of analysis processes was beyond the scope of this conference. Participants talked about analysis as it related to the development of a useful indicator system.

Reporting Data to Policymakers and the Public

Ellen Still followed with the final step—reporting the data. She shared insights about reporting data from two perspectives: (1) as a compiler of various reports her state's Department of Education publishes related to indicators, including, *What is the Penny Buying for South Carolina?* and (2) as an education committee staff person who sees masses of information cross the legislative desk, but more importantly, also sees which information catches the eye of a potential reader and, indeed, does get read. "If you are going to go through all the trauma, the sweat, the blood, and the tears of putting together an indicator system and collecting the data, then you owe it to yourselves to report it so that it will be attractive and people will want to see what's in the report." With that, she began to share lessons from her experiences in South Carolina.

Keep your audience in mind. As part of South Carolina's indicator system, the state department of education publishes and distributes three reports: a school performance report, an impaired districts report, and a statewide assessment report, each tailored to a specific audience. The school performance report is primarily used by principals and faculty. The impaired districts report is intended for, as Still put it, "district-level staff or someone whose life blood is closely tied to the success of that school system." And finally, the statewide assessment report is sent to "anybody whose name we can get who impacts on policy," including school personnel, local development agencies, and business leaders.

The Division of Public Accountability produces a comprehensive statewide report, *What is the Penny Buying for South Carolina?*, as well as a pamphlet summarizing it. This abbreviated version, she said, has the greater readership. To attract legislators, business people, and other decisionmakers to your information, Still explained, "you need to give it to them in bits and bites." At the same time, however, data collectors must maintain an armory of research to back up their findings. Staff members who produce such a report must realize that:

> After you have spent all this time working on indicators, defining your terms, planning how you've got to do all this reporting, cleaning up the data, you then have to be willing to let go of some of that and put it back down onto about four pages.

Summarize and organize. Still urged Arkansas educators to develop some sort of statewide summary report, even though its legislation does not require it. "Simply having a list of the data is not going to help the casual reader, the business person, the legislator, or the parent," she said. These readers, she went on to say, want guidance even if they disagree.

In addition, the summary should be organized so the reader can easily grasp its contents. South Carolina, for example, groups their indicators into six broad categories: (1) academic achievement, (2) services to schools, (3) services to school personnel, (4) school conditions, (5) community involvement, and (6) public confidence. The summary is formatted so the reader can shift easily between categories while maintaining an overall sense of the information presented.

Provide a discussion of the analysis of the data. South Carolina, like many states, requires an analysis of its indicator data. As in other areas of reporting, this analysis is written and presented in more that one format accounting for different audiences. For example, South Carolina's report on the analysis of its gifted and talented program was about 500 pages when sent to coordinators of that program, but only three pages long when sent to general readers. Part of this process of tailoring information to the needs and background of the audience includes searching for simple ways to describe sophisticated information. Still explained,

> We did a study looking at normal curve equivalents. Have you ever tried to explain normal curve equivalents to anybody? Trust me, we had tried everything. We found that what we needed to do was to find a normal, everyday kind of statistic to let people know what was happening. What did we come up with? The percent meeting the standard that hadn't met it the year before.

She concluded:

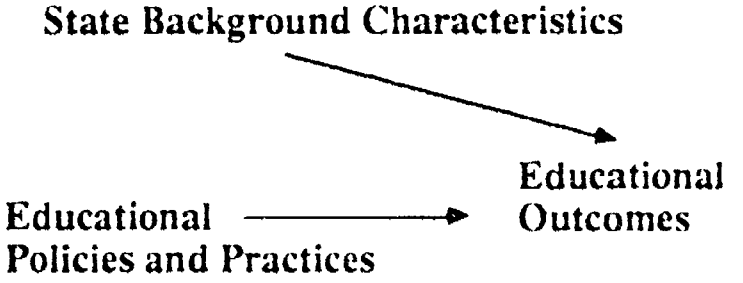
> Finally, you have to spend some time ... going around telling people what you found. I found that the people who were most astonished at the information in the [state summary] report were teachers, principals, and superintendents.

IV. Examples of Indicator Systems

Ramsay Selden described a national system of indicators started in 1985 by the Council of Chief State School Officers (CCSSO). Terry Peterson gave examples of how three states—Connecticut, Louisiana, and South Carolina—have dealt with data collection, analysis, and reporting, as well as how policymakers are using the data. Peterson also raised a theme central to indicator systems, namely, the level of responsibility for all or any part of the system. The relationship between the state and a local district is reflected in the degree of centralization of decisionmaking and in the locus of responsibility for the various activities of data collection, reporting, analyzing, and reporting data. Connecticut's indicator system, for example, has a high degree of local decisionmaking; the Louisiana and South Carolina systems have a more centralized, state-level orientation.

The Council of Chief State School Officers: Modeling an Education System

One way to use indicator systems is to fit the indicators into an overall model that depicts the entire education system and how it is doing. In 1985, the CCSSO developed a model that includes three areas: (1) educational outcomes, (2) policies and practices, and (3) context of the educational system.



Source: Council of Chief State School Officers, *State Education Indicators* (1988)

Since then, the Council has been working to collect and report education data in the publication, *State Education Indicators*. At this time, the report includes state educational policies and practices and state contexts reported in state-by-state tables. The CCSSO will not report these outcome indicators until 1991, because there are no current accurate, valid state-by-state rates for achievement, dropouts, or attendance.

Educational outcomes. Educational outcomes are those results about which policymakers and the public are most concerned; e.g., student achievement, dropout rates, attendance rates. They are the accomplishments of the educational system. Ultimately, they represent the goals of the system: student attendance, student achievement, school completion, and student status after secondary schooling. The CCSSO is proposing to look at two indicators: (1) attendance rates in each state as an indicator of holding power of the schools, and (2) completion rates, i.e., the percent graduating, factoring in GEDs awarded, and other kinds of secondary school completions. The Council is also proposing to collect the following indicators:

- Elementary, intermediate, and secondary school performance on the National Assessment Item Pool in reading, mathematics, science, social studies, and English as they become available
- Placement of students in jobs
- Enrollments in postsecondary education
- Involvement in the military
- Involvement in civic activities
- Attitudes of students, parents, and employers about the effectiveness of the system

Educational policies and practices. Because the Council believes that educational indicators should not be a "bottom-line phenomenon," Selden said they also track state educational policies and practices, which are under the control of school leaders and policymakers and which affect the outcomes. They are features of the system that can be changed to bring about improvement: instructional time; instructional content; effective schooling features such as instructional leadership, the environment, the orderliness of the school environment; teacher quality; resource allocations; and policies on program participation such as access to Advanced Placement (AP) or honors courses.

Educational context. Finally, because much variation exists in the wealth and socioeconomic circumstances among states, Selden believes states should collect indicators on the background of school systems. Although many contextual variables may be beyond the control of local or state policymakers, they can influence to some extent the needs and accomplishments of the schools. They may also affect the resources of the schools (CCSSO, 1986). Whether or not they can change background characteristics, policymakers can then consider the effect of the background of the state, district, or school on outcomes. Background factors include:

- Population characteristics, e.g., size of the state, percent urban, suburban, and rural
- Size and number of school districts as an indicator of complexity of the school system in the state
- Demographic characteristics of populations, e.g., educational attainment, income, civic involvement
- Resources available per child
- Taxable wealth per child

Connecticut: A Locally Oriented Accountability System

As in Arkansas and many other states, the imperative for accountability in Connecticut was fueled by major reform legislation: a school finance reform bill during the mid-1970s and an education reform bill in the mid-1980s (Kaagan & Coley, 1989). Likewise, with increased state funding for education came demands for greater accountability from the legislature and the business community.

The foundation of Connecticut's accountability system is the State Board of Education's *Design for Excellence: Connecticut's Comprehensive Plan for Elementary, Secondary,*

Vocational Career and Adult Education, 1986-1990. That report includes state goals for education with corresponding objectives and indicators. To ensure that the system uses multiple measures, it includes several indicators for each goal. One of the goals, said Terry Peterson, is to ensure equity for all children. Connecticut has five different measures to look at equity for all children (see Exhibit 1). This report combines graphics and commentary to show changes in the status of the goal, thereby giving the layperson, as well as educators, both an overview and more in-depth information.

Connecticut has a heavily local district orientation; of the 58 indicators collected, only nine come from the school level and seventeen are aggregated from district data. Most of the data collection in Connecticut is statewide: statewide samples, surveys, etc. At the core of the district level accountability program is the state's criterion-referenced testing program. In addition, other indicators from reports on expenditures, staff, postgraduate activities on students, etc., are included. While the state reports test scores by district, the districts issue lower level reports. In Connecticut the state reports only on statewide progress as a whole; the state level does not report information on schools. That is a local district determination.

A central issue in the indicator system in Connecticut is which policymaking body will report school data. It is the philosophy of the state to report data on the unit over which it has control through resource allocation—the school district—and to leave school reporting to the local district. School officials do not see school report cards as an imminent development (Kaagan & Coley, 1989). This is in contrast to a number of other states, including Louisiana and South Carolina.

Louisiana: A State Designs Its Indicator System

Contrasting with Connecticut is Louisiana, which passed a massive law related to indicators and accountability. As part of "The Children First" legislation in 1989, Louisiana educators and educational decisionmakers have been developing an indicators system. Currently, they are engaged in a process similar to Arkansas's. That is, they have passed the law, and are developing their system. Even facing a tough financial situation, the state has dedicated some funding to the development of the indicator system and is moving forward (see Exhibit 2). The designers of Louisiana's system have determined both what they need to know currently and what they plan to gather in the future relative to outcomes, inputs, as well as programs and activities. They include:

- **Student outcomes**, e.g., results on state criterion- and norm-referenced tests, dropout statistics, student attendance data, ACT/SAT results, graduation statistics
- **Demographics**, e.g., SES of students, relative wealth of districts
- **Other student data,** e.g., suspension/expulsion, extracurricular participation, student attitudes, socialization and interpersonal relations information
- **Input measures**, e.g., faculty/staff characteristics, class size, fiscal effort for education, administrative leadership academy participation, teacher evaluation information

Exhibit 1

Indicators of Success

⬆	Change is in the desired direction.
⬇	Change is counter to the desired direction.
⟷	There is little change.
▬	Baseline data. No comparable data were available before 1985-86.
⊘	No data indicating change are available.

Status	Indicators of Change	Commentary
▬	The number of handicapped students placed into competitive employment	In 1985-86, 1,805 of the 2,184 clients rehabilitated in programs supported by the Division of Rehabilitation Services were placed into competitive employment.
⬆	The proportion of vocational education program completers who obtain a full-time job related to their training, pursue additional education, or enter the military	In 1985, 70.9 percent of all vocational education program completers either obtained a full-time job related to their training (24.3%); pursued additional education (43.5%); or entered the military (3.1%). This figure is up from 68.9 the previous year.
⊘	The number of handicapped students graduating high school and placed into postsecondary training	No data are available on the number of handicapped students graduating high school who are placed in postsecondary training. Data will be available for the 1986-87 school year.
▬	The number of handicapped students in vocational education programs	19,457 handicapped students, constituting 12 percent of the total, were enrolled in vocational programs in the local public school districts in 1985-86. These data reestablish a baseline for this indicator, as the prior data were found to be significantly underreported.
⬆	Percentage of public high school students enrolled in the vocational-technical schools	The percentage of public high school students enrolled in the vocational-technical schools in 1985 was 7.8. This was 0.1 percentage points above the prior year and 2.2 percentage points above the level of five years ago.
⟷	The average score on the general educational development (GED) tests	In 1985, the average scores on the writing skills, social studies, reading, and mathematics sections of the GED test declined while the average increased slightly on the science section. The five components of the GED totaled 245.1 in 1985 compared to 247.3 in 1984.

Source: Connecticut State Department of Education, *Meeting the challenges: Condition of education in Connecticut* (1986)

INDICATORS RECOMMENDED FOR 1990 PROGRESS PROFILES

I. Student Outcomes	II. Demographics	III. Other Student Data	IV. Input Measures	V. School Process Measures	VI. Optional Indicators
1. State CRT/NRT results	1. Socio-economic status of students	1. Suspension and expulsion statistics	1. Faculty/staff characteristics	**1. SCHOOL CLIMATE INFORMATION	1. National merit semi-finalist statistics
2. Dropout statistics	*2. RELATIVE WEALTH OF SYSTEM	2. Participation in outside activities information	2. Class size characteristics	**2. EDUCATIONAL LEADERSHIP INFORMATION	2. Advance placement classes statistics
3. Student attendance statistics		**3. STUDENT ATTITUDE INFORMATION	*3. FISCAL EFFORT FOR EDUCATION (only teacher salary data component is at school level)	**3. PARENT/COMMUNITY INVOLVEMENT/ SUPPORT INFORMATION	3. SAT (school level results)
4. ACT/SAT results		**4 SOCIALIZATION AND INTERPERSONAL RELATIONS INFORMATION	4. Administrative Leadership Academy participation statistics (Profile 93)	**4. EFFECTIVE TEACHING INFORMATION	4. Alternative program availability and participation statistics
5. Graduation statistics (state level only for Profiles 90 but school and district by 4th year of student information system)			5. Teacher evaluation information (Profile 91)	**5. COVERAGE OF CURRICULAR CONTENT	5. Preschool availability and participation statistics

INDICATORS BEING RESEARCHED

6. Skill-specific data from CRT/NRT (communication, higher-order thinking, etc.)	3. Student turnover statistics
7. Follow-up status after high school statistics	
8. Promotion statistics	
9. Grade-point average statistics	

*Indicators deemed appropriate for only district and state level reporting are shown in larger type.
**Indicators deemed appropriate for only state-level reporting are shown in larger type

Source: Louisiana State Department of Education (1989).

Exhibit 2

- **School process measures**, e.g., information about: school climate, educational leadership, parent/community involvement/support
- **Optional indicators**, e.g., national merit semi-finalist statistics, advanced placement classes, SAT school-level results, statistics on availability and participation in preschool and alternative programs

(Louisiana State Department of Education, 1989)

The state is in the process of conducting research on other indicators to be included under student outcomes and demographics (see Exhibit 2). In addition, decisionmakers have some idea of the level they will try to gather data—at the school, district, or state level. This example shows how one state, Louisiana, is proceeding to develop their system methodically with the knowledge that they must phase in the components of the total system.

South Carolina: Reporting to State Policymakers

South Carolina is another state with a statewide indicator system. The Education Improvement Act of 1984 contained 61 new or expanded initiatives designed to affect all students in all grades, and all members of the education community, as well as parents and businesses. "We basically have two ways of looking at how South Carolina is doing in education at the state level," explained Peterson. One is the annual report of the Division of Public Accountability, *What is the Penny Buying for South Carolina?* It reports on indicators in six areas: (1) academic achievement, (2) services to students, (3) services to school personnel, (4) school conditions, (5) community involvement, and (6) public confidence. It includes the results of testing data, course taking, public opinion surveys, and teacher surveys over a period of several years.

This report is policy oriented. A blue-ribbon committee of business leaders, educators, and legislators takes that information and looks at it in two ways: (1) to see whether the state is meeting the broad goals and specific objectives set in 1983, and (2) to measure the gains to see whether they will meet the objectives by 1989. The report and other data are digested by a group of key citizens, business leaders, educators, and legislative leaders. That panel focuses on the following indicators: ratings from passing basic skills, standards in various grades, SAT scores, school attendance, graduates entering college, how vocational students do in terms of employment, and results of exit exams.

Involving state policy leaders in such discussions was important, added Peterson, because they gained some understanding about efforts to achieve goals and objectives. Certainly, if schools achieved or surpassed their goals, policymakers would be able to recognize gains. And if schools were not able to meet all the goals and objectives, or the gains were not as great as expected, they might understand why that happened.

A second way South Carolina policymakers use this information is to set indices for each of the six broad goals. For example, one goal was to raise academic standards. In that case, the panel of state leaders examined a range of indicators of academic achievement, from those reported in *What is the Penny Buying for South Carolina?* to ones given in national and regional surveys. Using that information and their collective wisdom, the

blue- ribbon committee issued a report on future indices for each of the six broad goals. "And that," said Peterson, "is where the rubber meets the road. If the information isn't useful in some way then you shouldn't be bothering with it."

He closed with the observation that a state can have a variety of indicator systems at each level—school, district, and state; they can be made up of a whole list of different components. But, he concluded, "What you do is important, because if it doesn't fit Arkansas it's probably not going to work."

V. Implementing an Indicator System in Arkansas

Making sure an indicator system works for Arkansas is part of the role of the State Board of Education, said Nancy Wood. From her viewpoint as a member of the Arkansas State Board of Education, Wood described a six-step process:

- Define what's important.
- Measure what's important.
- Compare what's important.
- Tell what's important.
- Change when it's important.
- Pay for what's important.

Defining what is important may be the most difficult task, said Wood, because it involves arriving at consensus among stakeholders—from the governor to legislators to educators to parents. Wood suggested that the state board of education assume the role of developing consensus, of facilitating the definition of the state's goals for education.

After defining goals for the state, decisionmakers must to try to measure what is important. For too long, said Wood, states have tried to control accountability with inputs; instead, she advocated moving toward an outcomes-based accountability system. Outcomes-based measurement, however, requires that a variety of measures are used, not standardized tests alone. Districts will need support to learn how to use outcomes-based measures effectively. The state may have to remove some barriers, spend more money to develop such measures, and provide more technical assistance to local districts. "Accountability based on output will demand less regulating and more enabling from the state. And it may be more expensive. It's always easier to tell people what they are doing wrong on a [test] than to help them to change."

The next thing to do is compare what's important. This is the anxiety-ridden part of an indicator system, according to Wood, who said it is like a disease. "It's not really terminal, but I do think it can be disabling. But the cure is faith and trust in one another that we can do the job and that we're going to do a better job." The "report card" is only a device to let us see where we need to work a little more or a little harder or where we need to change. Wood called for the use of multiple indicators and for the application of the context or background of each school.

After defining, measuring, and comparing, the next step is to tell what has been measured. Clearly, states such as South Carolina recognized the importance of telling the public exactly what they got for their tax dollars. Although schools traditionally have been information centers, in Wood's opinion they have not always been the most effective dispensers of knowledge.

> On the state and local levels, we have to move away from being folks who just put out information to actually shaping the information in a way that is relevant, readable, and accessible to everyone who wants it.

Wood added that she thought it was the role of the state department of education to provide uniform, consistent reporting that is accurate and verifiable.

States have to be able to change when it is possible to do so. It is possible, explained Wood, for test scores to reach a plateau, or for an indicator to become obsolete. When those things happen, policymakers need to examine their indicators and either increase the standards or create new indicators. "We have to begin to push a little harder; to grow when our indicators are no longer indicators of what everyone can do." When everyone in the system is meeting minimum requirements, it's time to change the requirements, asserted Wood.

Finally, the state must pay for what it considers to be important. Without adequate funding an indicators system in Arkansas or any state will not be accountable or useful to anyone. The state board and the state department of education will need adequate and appropriate equipment and personnel if they are going to be able to (1) help school districts define and address their problems; (2) help districts recognize and report on their achievements; and (3) provide the public and policymakers with the information they request.

Building Confidence in Public Education

An indicator system can give the public and policymakers information to help rebuild their confidence in the education system, agreed Ellen Still. "Educators need to realize that it is going to take time to rebuild faith in the system that we have, and to do that we are going to have to invest in a system of evaluation so we can measure what our school systems do well and what they need to do better."

"Education," Still added, "is the only industry I know that considers using money for research and development in evaluation to be money lost. Business and industry spends between 15 and 20 percent of its money on research and development. Why is it that educators consider taking 1 to 2 percent of the money that we spend on education to see whether it is being well spent, to be money lost?"

Still shared some lessons learned from South Carolina's experience of the past five years:

- **First, an indicator system is constantly evolving and developing.** Remember that the system is not going to begin perfectly. And if the indicators are not giving the necessary information, change them.

- **Second, an indicator system is built using available data.** South Carolina, said Still, started with available data, collected in a school report card, then created a district report card, and finally a statewide system. Each component has a slightly different purpose and focus. At the individual school and district level, the results are used as the basis for deciding whether a school or district receives a monetary award or whether a district is designated "seriously impaired in educational quality." At the state level, the focus is on assessing and changing educational goals and plans.

- **Next, an indicator system can generate support for needed improvements.** Imperfect as a beginning system may be, it begins to create the demand for better assessment and better indicators. The indicator system begins to drive improvement in itself.

- **An indicator system can define for the public, educators, and legislators, the state's education goals.** They can describe progress that has been made toward the goals, and what changes must be made. For example, South Carolina s 1984 Education Improvement Act mandated that students should not be promoted unless they passed the standard of the Basic Skills Assessment Act. By 1989, research showed that retaining a student for one grade increases by 50% the chance that the student will drop out. Indicators showed that many districts had as much as a 50% retention rate in the first grade. These data prompted state and local education decisionmakers to reexamine first-grade instruction.

- **An indicator system can also demonstrate the efforts that educators and education decisionmakers are making to address problems.** Often the most outspoken critics are educators. When they examine how far they have come, they often find that their student achievement has improved, their attendance has increased, and parent/student attitudes are better.

- **Finally, an indicators system created in good faith can return some faith in the system first to educators, then to policymakers, and finally to the public itself.**

Supporting Economic Development

When members of the public have faith in their education system, they will likely assume some responsibility for its support. Leaders in the local business community must tell the community at large that working to renew their faith in the education system "is a matter of enlightened self interest," said William Youngblood, president of the South Carolina Business Roundtable. Members of both communities share the responsibility for preparing their young people for the jobs of tomorrow, a majority of which will require some form of postsecondary training. And they are equally responsible, as members of the community, for ensuring that all children have access to a quality education and a productive lifestyle, especially those at risk.

"That is economic development, and the more business leaders accept education as the backbone of economic development, the more they can help carry the message for you," Youngblood explained. "It really is a simple goal-setting process but there is not much point in setting goals to improve education unless you can measure whether the efforts are working." As decisionmakers begin to create the kind of indicators that will be suitable for measuring the efforts of the people and students of Arkansas, Youngblood advised them to ask the following questions:

- First, have you shaped your educational reforms into a vision of what you expect them to accomplish for a changing population?

- Do you know where you want your state's education system to be in the year 2000 to meet the demands of jobs in a global marketplace? You must begin to understand the implications of one world, one market, and how Arkansas is going to function in it. Then consider how that is related to what you're trying to shape for the year 2000.

- Do you have ways of measuring whether your state is on track with its educational programs? From a "carrot and a stick" approach, your system must provide both incentives for districts that achieve their goals and support for those that do not succeed at first.

Youngblood cautioned the stakeholders in Arkansas to be patient. "We have to understand that we are in this for the long term," he said. "We will measure some progress. Some experiments will succeed and some will not. After all, 80% of all new businesses fail in the first five years.

Echoing the comments of the other speakers, Youngblood pointed out that accountability is an element in maintaining strong public support for moving the state toward commonly-shared goals. "As Governor Clinton says, we have to keep a 'laserlike focus on education reform for the next decade' or we cannot compete in the year 2000." One way to do that is to involve all key players—parents, educators, business leaders, members of the entire community—early in the design of the process.

Finally, he offered closing words of encouragement for members of communities who support public education, whether in Arkansas or anywhere throughout the Southwest Region:

> I should say that we are on the verge of a whole new era and a whole new opportunity. I am convinced we can give our people the jobs that they need and the education they need to do those jobs. We know we can do it; we have done it before. I think the people in this room are proof of that: people who began in poverty often want success. We began with far more than those before us ever had. And we know we can meet the challenges of tomorrow if we but have the will to try.

VI. Where Do We Go From Here?
A Dialogue about Issues, Questions, and Concerns

Q: What lessons can we learn from other states that will help keep an indicator system from conflicting with or having negative effects on the state's restructuring efforts? More specifically, if indicators are standardized from the top down, from the state, won't they conflict with restructuring efforts that call for more school-based decisionmaking?

Peterson: South Carolina's system has tried to incorporate both standardized indicators throughout the state and decentralized school site decisionmaking through the school site councils and the local improvement process. Having the district board of trustees and the superintendent develop and implement their own improvement plans mediates the degree of state control.

Dade County, Florida, is another pilot restructuring program. They have a school incentive program that they've negotiated with the teachers union and it is very much like South Carolina's: they use achievement data, attendance, a variety of hard data, and schools get an award if they have large gains. But there is a second piece that fits in nicely. The school can also name measures of improvement beyond the traditional measures of standardized tests or dropout rates. It then devises a process to improve those measures, be it community participation, or improvement in the arts. Then it can compete for a second-tier award that is more subjective. The panel of judges are educators and business people independent of the school district.

Selden: In Dade and in the restructuring projects supported by Sizer's "Coalition for Essential Schools," one of the features is relief from traditional standardized achievement tests as an assessment device. Those projects are intended to incorporate innovations and radical new concepts of assessment, as well as new concepts for organizing schools or a subject matter or whatever. In that case, such a system does conflict with the concept of a standard assessment indicator of student achievement, because the data are not collected.

Steele: Arkansas has provided some waivers as part of its restructuring efforts; however, that has not included relief from the testing requirement. At some point it would be in the state's interest to examine the emphasis that we are placing on standardized tests and particularly on the minimum performance test (MPT) as a measure of school success. I think we very badly need to go beyond that point and be able to concentrate more on the "holistic indicators" discussed by Ted Sizer.

Selden: One concept that might be tried is a hybrid system, where the indicator system includes some general goals that are established and monitored on a standard, systemwide basis for the whole state. They would be combined with some specialized goals that the local district would develop and systematically monitor and report to their own constituencies. Such a program would deal with the fact that school districts do have different situations.

Q: In South Carolina's experience, has there been a school report that has been sent to schools from the beginning? Have you studied the use of the report in schools and determined what kind of effect it is having? Is the faculty reviewing their status and planning for further improvement?

Still: We have not done that in any systematic way. We have anecdotal information that tells us that our comparison grouping (1) provided schools with information they could get a handle on and use to make comparisons, often for the first time and (2) forced them to review their test data in ways they had not done before. What we haven't seen and what we would have liked to see is a little bit more wedding of the school performance report and our school improvement reports.

Selden: A few districts in the Pittsburgh school system have tried to make performance data and other kinds of information available through the computer to school principals in a user-friendly way. They have concentrated on making the machine easy for a principal to use, so that it is not difficult to get at the data. They also have concentrated on providing very timely data; soon after testing, the results are in the machine and the principal can get at them and use them quickly. My understanding is that the effort has been fairly successful.

Q: How far are we from being able to use the radical new kinds of assessment? Is there any hope of standardizing non-standardized assessment?

Wurtz: Yes. If you establish an elaborate system gauging academic achievement on standardized tests, that has the most danger of narrowing the curriculum: creating incentives to **look good** instead of make things better. The National Science Foundation (NSF) has just given the state of Connecticut a $2 million grant to develop performance assessments and to train teachers to evaluate them. The measures may not take the form of paper and pencil, sit-down written tests. Instead, they represent students being given an authentic task, solving a laboratory problem, or solving a problem through an experimental technique that may take a week to finish, and then writing up the report. With such reports, you involve teachers in making judgments as to whether the students achieved those purposes.

Connecticut is working with Sizer's Coalition for Essential Schools and with a formal consortium of seven other states on the development of new assessment techniques. Since Connecticut has a mechanism for relating to the seven other states plus the whole coalition, they may perceive part of their mission as being helpful to other states. And I would urge upon you, at least remaining knowledgeable about what developments they're making. I think these new things are just around the corner and it's worth paying attention to.

Selden: There are two other instances where performance-based student testing is operational: the state of New Yo. and Great Britain. New York has a fourth grade science test where kids are tested at stations that are set up with equipment to conduct real experiments. Every elementary school in New York collects the equipment to do this: it costs about $100 per school for all the equipment for the entire fourth grade test. In one

of the exercises, the kids come up to a station with two pieces of cardboard that are 5x8; one is solid and the other one has got about 6 holes in it like in a domino pattern. The cards are glued or stapled together and inside is a piece of foil which is of some shape that the kids can't determine, because it's behind the cardboard. All they can see are the holes —metal foil behind some of the holes and not behind others. The kids have to take a battery and two wires and a light bulb and figure out what shape the foil is. They have to figure out how to gather the data, how to interpret the data, and form a conclusion, and all in ten to fifteen minutes. And, as Emily was saying, teachers or coders have to be trained to watch and determine when to give a child credit for being able to do it and when not to. That is a whole new testing technology that's operational for every fourth grader in the state of New York.

Great Britain is developing tests like that for their whole new national curriculum. One of the beautiful things about them is that teachers determine what to test, they design the test's exercises, they administer the test's exercises to their students, including the coding and evaluation, and then they sit down with each other in the whole school and they justify the scores they've given each student. So they are accountable to their peers for not overrating their students, because those students are going to move along to somebody else in the school system most likely and they've got to be accountable to their peers for being accurate and fair in these coding systems. The teachers are brought right back into the middle of the assessment process.

Q: Given that an annual reporting system already exists in Arkansas, is there some way to mesh that report with any kind of additional indicator reporting, rather than layering another effort that would be totally separate from it?

Steele: I think that is a good point. One of the things that we were attempting to do at the state level was to get good data with a minimum of paperwork and a minimum amount of duplication. Once the standards are in place and once they are followed, then the accountability system ought to reflect what you have in place there. I agree that if you have an annual report, it needs to be connected with your annual plan, which needs to be connected with all the other things that contain the indicators of progress and growth in your school. I think that an accountability system should mesh quite well with the standards for accreditation in our state.

Selden: I underscore that. Terry and I have the pleasure, also, of assisting the state of Louisiana in the development of their school progress profiles. We brainstormed with people as to what should go into a system. We got a list of items that people felt were important aspects of schools, as outputs, inputs, or as contextual background that should go into the school progress profiles. A later step was to sit down and look at where data might come from to measure those variables and indicators. We discovered that there was a big paper annual school report and an annual school survey which had a tremendous amount of information in it. It was a hard copy form filled out and submitted by each school each year and it covered many different areas. Although it is not used in the accreditation process at this time, it was not dissimilar from what might be in an accreditation report: staffing, how many of the teachers are out of field, on various kinds of certification, class sizes, with listings of numbers of kids in each class, and so on.

Now, one of the things that we are thinking about doing is automating that school report so it is submitted in computerized form. In that way, as Lynn Moak suggested, the state can process that and use it for input into the indicator system so it would mesh almost completely with the data collected for the indicator system.

Paul Luehr [from the audience]: For the last three to four years we've offered the districts a program that will allow them to report in computerized form. About 65-70% of the total records that we receive come to us in that format. One of the problems, of course, is that a stand-alone system does not mesh with any software that districts may have—personnel software, financial software—and is often difficult for schools to use. In some cases we give them our standards—our record formats—that type of thing—and they can do the tape off their system. We are able to use that format.

Q: Where does the accreditation process stand in Arkansas? Are there proposals to move toward something like performance-based accreditation or is that being implemented?

Steele: There is an outcomes education evaluation, Comprehensive Outcomes Evaluation, that is focusing more on results rather than input. It is an outcomes-based accreditation system where the approach is to look at the results that a school achieves rather than the inputs—massive amounts of inputs. Some districts have been attending some meetings to learn how to do it. I think a couple have already tried it. I think Fayetteville did a version about a year ago.

Q: How do you measure the outputs?

Steele: We look at anecdotal records, test scores; we provide the results of surveys as part of the total report.

Q: There's some confusion on the South Carolina side. I'm saying some of these indicators are inadequate because they don't tell you the whole truth. Are you saying that the indicators tell you the whole truth or do they just get you started to seek the truth?

Peterson: Or nothing but the truth, right? I think South Carolina's state indicators give a pretty good picture, because we use a lot of different measures or indicators of general concepts. For example, just having SAT scores alone doesn't tell you much. SAT isn't a very good test. But if the scores are up; and if the college-going rate of your high school graduates is up, and if the kids who are going to college pass more freshmen courses in college, then you have three indicators together that tell you that at least your college-bound kids are probably doing better.

So at the state level we have a lot of multiple-level data because we do polling, sampling, plus we get aggregated data from the school up. At the school level, though, there probably is a lot less certainty, because we don't have as many indicators. We probably need more of the "hybrid approach" that Jane and Ramsay were talking about, where you have some state information to give you some guideposts. You can't possibly gather all

the information you need to explain "why." It becomes very burdensome, but if over a year or more, you find that a couple indicators are going down, you might conduct some special study. That's the beauty of having a state Division of Public Accountability, because periodically it conducts special, in-depth studies—surveys, on-site visitations, classroom visitation. So, I think it's probably using a combination of techniques and perhaps slightly different techniques at several levels.

Selden: I want to pick up on something that Terry said, and that is: the one thing that you really can't do with indicators is use them to prove what works, because they don't stand up logically. High achievement in one case is associated with new materials and high achievement is associated in another case with old materials, so what difference do materials make? You can't sort that out. The best anyone has ever been able to say about this is that **you have to be careful when you are collecting educational indicators not to presume that the inputs are going to be related to the outputs in a cause-effect relationship.**

Secondly, the way you treat the inputs is to consider that they offer possible clues and I have just never seen anybody offer a more convincing rationale than that. On one hand you need output, you need the bottom line; you need to be able to tell people how the school system is doing. But on the other hand you need to give educators—principals, teachers, curriculum coordinators, school board members, superintendents, and other people with direct responsibilities—information on inputs that they can review and consider as **clues to possible causes** for why they are doing as well as they are. And that is as far as the educational indicator system can go.

At the Council of Chief State School Officers, we are trying to offer the states a comparative achievement level in eighth grade mathematics. Thirty-eight states are going to be compared through the NAEP, using a common test for the first time ever. Well, if you are a chief state school officer and your eighth grade mathematics score is lower than you want it to be, you might ask, "What might be going on in my state that I have some control over?" Is it because the curriculum is not focused on the right topics? Is it because the textbook adoption process is not resulting in materials that are as effective as other materials you might be using? Is it because teacher preparation in mathematics is not producing people who can get the student performance up? Those are the possibilities, but no indicator model can really offer the answer. It might show you where you differ from other states that are doing better that you can pursue as clues and I think that is about as far as they can go.

David: It may suggest where you look further for data. I think one of the most difficult things in selecting state-level indicators is to know from the outset which kinds of questions you are trying to answer with them. The hypothetical answers you just gave to that question all sort of presume that there was an across-the-board state level policy manipulation that would address it, which might not be the case at all. That is, if you are low on 8th grade math, you want to dip down to the district level. And then you want to dip down to the school level; you might want to go even further inside of schools, depending what the patterns of data tell you at each level. What we tend to do is to try to layer everything onto a single system and it just can't do it. So that's why you have

to weigh very carefully (1) the question you are trying answer, (2) how much data burden that puts on the people who need to supply it, (3) what kind of information it's going to give you and (4) whether it's going to tell you anything that lets you get further information if you need it. And if it doesn't meet those criteria, then you toss it.

Selden: I'd like to make two points before we end. One is to emphasize the idea of experimenting with an indicator program. Louisiana, for example, is pilot testing its program for the first year to (1) see how the data run, (2) see how people react to the reports, and (3) get advice on how to refine the system. In the future, they plan to tie a school incentive award program to the performance reports.

In Arkansas, you might consider running a planned experiment with the indicators to see how they work and what effects they have on the participating districts compared with districts that don't have them. I don't know of any state that has done that. And after Arkansas determines the purposes of its indicator system, come back in a few years and evaluate whether the data you are generating does serve those purposes.

The other point I would like to make is: start with a clean slate in thinking of the indicators that you want to tell you about your system. Don't constrain that part of the exercise by limiting yourselves to what the state agency currently has, or to what you think people might be willing to accept in the way of data collection and new data burden. After you have declared and identified what information is important, then you have got to go back to where the data system is right now and work from that. Ask yourselves, "How do we change it or expand it, or refine it over time to give us what we need?"

References

Act 668, 77th General Assembly of the State of Arkansas, Regular Session (1989).

Connecticut State Department of Education. (1986). *Meeting the challenges: Condition of education in Connecticut.* Hartford, CN: Author.

Council of Chief State School Officers. (1988). *State education indicators.* Washington, DC: Author.

Fuhrman, S. H., & Elmore, R. F. (1990, Spring). Understanding local control in the wake of state education reform. *Educational Evaluation and Policy Analysis. 12*(1), 82-96.

Kaagan, S. S., & Coley, R. J. (1989). *State education indicators: Measured strides, missing steps.* New Brunswick, NJ: Educational Testing Service and Center for Policy Research in Education, Rutgers University.

Louisiana State Department of Education. (1989). *Indicators recommended for 1990 progress profiles.* Unpublished document. Office of Research and Development, Bureau of Evaluation and Analytical Services.

Oakes, J. (1986). *Educational indicators: A guide for policymakers.* New Brunswick, NJ: Center for Policy Research in Education, Rutgers University.

Shavelson, R. J., McDonnell, L. M., & Oakes, J. (Eds.). (1989). *Indicators for monitoring mathematics and science education: A sourcebook.* Santa Monica, CA: The Rand Corporation.

Appendix A

ACT 668 1989

State of Arkansas
77th General Assembly
Regular Session, 1989
By: Senator Malone

A Bill

SENATE BILL 29

As Engrossed 2/15/89
As Engrossed 3/13/89

For An Act To Be Entitled

"AN ACT TO ESTABLISH AN OFFICE OF ACCOUNTABILITY WITHIN THE STATE DEPARTMENT OF EDUCATION; TO PROVIDE FOR ANNUAL SCHOOL DISTRICT REPORT CARDS; TO CREATE AN ADVISORY COMMITTEE ON ACCOUNTABILITY; AND FOR OTHER PURPOSES."

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

SECTION 1. This act shall be known as and may be cited as the "School Report Cards Act."

SECTION 2. In order to enhance the public's access to public school performance indicators and to better measure the dividends paid on the increasing public investment in Arkansas' schools, the General Assembly finds that a separate office of accountability should be established within the State Department of Education. The foremost obligation of this office shall be to publish annual "school report cards" assessing the performance of schools and school districts *serving students in grades K-12 inclusive*, with comparable characteris.ics *such as sociceconomic characteristics, size of districts, etc.*, across a range of indicators and over a period of time, and providing information to set future performance goals for each school or school district. A co-equal obligation of this office is to be accurate and open with the Department, the Advisory Committee, the subcommittee, and the public.

SECTION 3. (a) There is created the Office of Accountability within the Department of Education.

(b) The Director of General Education shall establish a coordinator and staff for the Office of Accountability.

(c) The coordinator and staff shall assist the citizens' Advisory

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Committee on Accountability in the annual publication of school report cards, as defined in this act, and the performance of other duties as set forth herein.

SECTION 4. (a) Beginning in 1990, the Office of Accountability shall issue an annual report on the performance of each public school district in the state and/or where feasible, on the performance of each school within a school district. This report will be known as the "school report card" and shall be an index of each school or school district's performance measured against statewide standards for comparable school districts and schools. The "school report card" shall make comparisons to a school or school district's performance in preceding years and project goals in performance categories.

(b) The "school report card" shall contain, but not be limited to, the school district's or school's drop out rate; *retention in grade rate;* college going rate; attendance rate; test scores on nationally-normed tests; number of students required to take remedial courses in high school and college; ratio of expenditures per pupil on administrative, athletic, and gifted and talented expenses.

(c) The "school report card" must be published no later than *December 1* of each year, and it shall be published in a format that can be easily understood by parents and other members of the community who are not professional educators.

SECTION 5. In addition to the annual issuance of the "school report cards", the Office of Accountability shall be responsible for the following:

(1) Development of automated data systems for financial and educational reporting to department from the schools and/or school districts;

(2) Development of longitudinal student and school reporting for accurate and fair comparative analysis for purposes of school improvement;

(3) Development of methods to determine attitudes toward educational matters;

(4) Establishment of schedules for publication of information to keep the public and media informed on a regular and timely basis; and

(5) Working with program approval and certification sections of the State Department of Education and the State Department of Higher Education and the individual colleges to *provide information that will contribute*

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to reasonable, equitable and excellent preparation of certified personnel in the institutions, both public and private, of higher education.

(6) Cooperation with other sections of the Department of Education through contractual arrangements to conduct research on educational issues of concern.

(7) Reduction of the number of reports presently required by the Department of Education from the various school districts by no less than twenty-five (25).

SECTION 6. (a) The Office of Accountability shall make available to the Joint Interim *Oversight Subcommittee on Educational Reform, the Joint Interim Committee on Education* and the Advisory Committee *reports* the Office submits to the Director of the State Department of Education.

(b) *Under the direction of the Director of the Department of Education, the* staff of the Office of Accountability shall work cooperatively with and provide any necessary assistance to the Joint Interim *Oversight Subcommittee on Educational Reform and the Joint Interim Committee on Education.*

(c) The Office of Accountability shall furnish information to appropriate legislative committee upon request.

SECTION 7. (a) To assist the Office of Accountability, there is established the Advisory Committee on Accountability to be composed of the following members *who must be willing to devote adequate time to the work of the committee:*

(1) Director of the *General Education Division* State Department of Education or her designee, who shall act as secretary to the Advisory Committee;

(2) Three (3) members of the business community with knowledge in the particular areas of concern;

(3) One (1) member of the Arkansas Senate;

(4) One (1) member of the Arkansas House of Representatives;

(5) One (1) person from a list of three (3) names submitted by the Arkansas Association of Educational Administrators (AAEA);

(6) One (1) person from a list of three (3) names submitted by the Arkansas Education Association (AEA).

(7) One (1) parent of a school-aged child;

(8) One (1) person from a list of three (3) names submitted by the deans of the colleges of education of the institutions of higher learning in the state.

(b)(1) The three (3) members from the business community, the parent, *the AEA representative*, the AAEA representative, and the representative of the deans, shall be appointed by the Governor, subject to confirmation of the Senate.

(2) The Committee on Committees shall appoint the Senate member to a two (2) year term.

(3) The Speaker of the House shall appoint the House member to a two (2) year term.

(4) All voting members shall serve four (4) year terms except that the terms of two (2) initial members shall expire after two (2) years of service, the terms of two (2) other initial members shall expire after three (3) years of service. All terms shall expire on April 1st. Membership is limited to two (2) terms.

(5) The Director/designee and the legislative members of the committee shall serve as advisory members without voting privileges.

(c) Non-state employee committee members and legislative members of the committee shall serve without compensation but shall be entitled to reimbursement of expenses and mileage allowances for attendance at committee meetings at the same rate authorized by law for legislators' attendance at meetings of joint interim committees of the General Assembly.

SECTION 8. (a) To assist the General Assembly, there is established the Joint Interim *Oversight Subcommittee on Educational Reform of the Joint Interim Committee on Education* to be composed of the following members:

(1) Two (2) members of the Revenue and Taxation Committee (one [1] Senator and one [1] Representative);

(2) Two (2) members of the *Legislative Council* (one [1] Senator and one [1] Representative);

(3) Two (2) members of the Legislative Joint Auditing Committee (one [1] Senator and one [1] Representative);

(4) Four (4) members from the *Joint Interim Committee on Education* (two [2] Senators and two [2] Representatives).

(b)(1) The Committee on Committees, after consultation with the appropriate committee chairman, shall appoint the Senate members, and shall name the Senate co-chairman;

(2) The Speaker of the House, after consultation with the appropriate committee chairman, shall appoint the House members, and shall name the House co-chairman.

(c) The duties of the Joint Interim *Oversight Subcommittee on Educational Reform* shall include, but are not limited to, the following:

(1) *In consultation with the Director of the Department of Education, review* the Office of Accountability;

(2) Review of policy issues affecting educational reform in Arkansas *and issuance of a report to the Joint Interim Committee on Education on or before October 15th of the year preceding a regularly scheduled legislative session;*

(3) Sponsorship *through the Arkansas Department of Education* of innovative education projects in conjunction with school districts, cooperatives, institutions of higher education, the state Boards and Departments of Education and Higher Education, the Governor's Office and private institutions.

SECTION 9. (a) The Advisory Committee on Accountability shall submit prior to January first each year, a written report containing their findings and recommendations in regards to their specific areas of concern to the *Joint Interim Committee on Education of the* General Assembly and the State Board of Education.

(b) The members of the Committee on Accountability shall receive *under the direction of the Director of the Arkansas Department of Education* assistance and cooperation of the staff of the Office of Accountability and other related divisions within the State Department of Education, Higher Education, the Division of Computer Services and all other branches of state government *as directed by the respective agency directors.*

SECTION 10. Establishment of the Office of Accountability and implementation of the provisions of this legislation which directly affect the operation of the Arkansas Department of Education shall be contingent on the appropriation and funding of the staff and operating budget necessary to allow

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the Department of Education to carry out the duties assigned to the Department in this Act. If no specific appropriation and funding to establish the Office of Accountability is enacted during the 77th Regular Session of the General Assembly, it shall be inoperative until such specific appropriation and funding is enacted.

SECTION *11.* All provisions of this act of a general and permanent nature are amendatory to the Arkansas Code of 1987 Annotated and the Arkansas Code Revision Commission shall incorporate the same in the Code.

SECTION *12.* All laws and parts of laws in conflict with this act are hereby repealed.

SECTION *13.* EMERGENCY. It is hereby found and determined by the General Assembly that a program assessing the performance of Arkansas schools is needed to maintain the public's confidence in educational reform in this state; that upon its establishment *and funding,* the office can begin accumulating necessary indicators of growth and improvement to supply to all citizens of the state; that in order to establish such a program within the Department of Education, this act needs to become effective immediately upon its passage. Therefore, an emergency is hereby declared and this act being necessary for the preservation of the public health, welfare and safety shall become effective immediately upon passage.

/s/ Senator Malone

President of the Senate

APPROVED BY Bill Clinton
GOVERNOR
3-20-89

Appendix B

Participants' Worksheet Comparing State Board of Education Goals with Accountability Seminar Goals

State Board of Education Goal	Accountability Seminar Goal	Possible Indicators
1. *All children entering first grade will be capable of beginning first grade work.*	Permit school flexibility in promotion and "developmental" first grade program. Don't require all kindergarten students to meet specific standards. Encourages early childhood education and extra support for kids potentially at-risk.	Percent of children who attended kindergarten, Head Start, etc. Percent of children who attended first grade requiring placement in kindergarten. Percent of children enrolling in first grade identified as being at-risk.
2. *All graduating students will be ready to be contributing citizens. At least 80% will be academically prepared for post-secondary education and training.*	80% of all graduates will be prepared academically for post-secondary education or training. All graduates will become "contributing citizens." College-going high school seniors and number of college qualified high school seniors. Arkansas college freshmen required to take remediation as a percentage of total freshman class.	Percentage of students' enrollment in post-secondary programs. Number of students on provisional enrollment status in post-secondary programs. Completion rate of students entering post-secondary programs. ACT/SAT scores. Voter registration rolls. Business feedback as to skills and success in remaining in job position. Graduates entering higher education.

State Board of Education Goal	Accountability Seminar Goal	Possible Indicators
3. *The dropout rate will be reduced by 50%.*	Reduce dropout rate. Improve attendance and graduation.	Attendance. Average daily attendance of kids. Number of school-age children in school. Graduation rate.
4. *Eighty-five percent of all adults, regardless of race, sex or economic background, will have a high school diploma or its equivalent.*	Increase student awareness of options for schooling. Give students best education possible/up to their potential.	Dropout rate. Increase in the percentage of students in post-secondary training. Increase in the percentage of students taking GEC (Adult Ed. Centers). How many students have established realistic goals and are proceeding toward realization of their goals as reported in student and counselor surveys. Ability index- achievement level - MAT 6. Number of students at or above grade level of work. Number of graduating students. Enrollment in advanced level courses. Graduation (exit) text results.

State Board of Education Goal	Accountability Seminar Goal	Possible Indicators
5. *All schools will achieve the educational objectives set by the state, their district, and the individual school.*	Ensure that each student completes a course of study that is appropriate, relevant, and challenging.	Percentages of satisfactory completion of advanced courses.
		Post-secondary entrance rates.
	Increase parental, business, and citizen involvement in schools.	GPA at conclusion of first 24 hours of (college) course work.
	Ensure each school has an orderly, disciplined environment.	Percentage of parents participating in school conferences.
	State-wide reports should use comprehensive MIS (management information system) which will produce more efficiency. All schools and districts keep standard personnel records, student records and financial records. Standard system can be changed, but format should be consistent and useful.	Increased parental participation in decision making in school.
		Number of school/business partnerships.
		Standards.
		MPT (Minimum Performance Test).
	Report these results fairly by developing techniques for grouping schools by background characteristics.	Enrollment in certain courses tracked over time.
		Business feedback as to performance of graduates.
		Community attitude towards performance of school and school districts.
		Dropout rates.
		Testing of thinking and basic skills (not MPT).
		Tracking of MAT 6 scores on higher order thinking skills.

State Board of Education Goal	Accountability Seminar Goal	Possible Indicators
5. *Continued.*		Expulsion rate. Number of school vandalisms reported. Number of assaults in schools. Number and types of disciplinary actions. Socio-economic characteristics of community, school district and state. School districts and schools accreditation status.

State Board of Education Goal	Accountability Seminar Goal	Possible Indicators
6. *The state will ensure adequate funding so that all schools can meet state educational objectives regardless of the wealth of the community.*	Improve school buildings. Provide appropriate funding for early childhood through grade 12.	Number of schools cited for not providing necessary instructional material and/or classes. Number of schools meeting state structural standards. Student, teacher, parent attitude survey. Comparison of per pupil expenditures to the regional averages. Per pupil expenditure divided by per capita income. Relative proportion of expenditures for instruction. Funding for education as a percentage of the total state budget. Amount of local effort relative to state and federal funds provided.

State Board of Education Goal	Accountability Seminar Goal	Possible Indicators
7. *All professional school personnel will meet state standards for training and demonstrate performance.*	Provide quality in-service/ staff development.	Teacher perception of quality of in-service/staff development.
	Give time to teachers to work together.	Number of hours of in-service/staff development.
		Number of symposiums/ conventions teachers attend out of school district.
		Number of professional developmental plans for teachers.
		Number of invitations to teachers to train someone else.
		Number of teachers participating in university continuing education.
		Number of hours and degrees of education beyond BA.
		Number of hours allowed for preparation time and amount of time when groups of teachers are free to work together.
		Improved school leadership.
		Teacher attendance.
		Principals' participation in leadership academies.
		Principal turnover rate.
		Survey of public, faculty and students on both judgment of leader and perceived sense of clear, shared sense of school identity and mission and community support of school.
		Number of professional development plans of principals.
		Number of teachers participating in academic alliances.

State Board of Education Goal	Accountability Seminar Goal	Possible Indicators
8. *The number of minority professionals working in the education system will significantly increase.*		University teacher training entrance and exit degree requirements. Teacher turn-over rates. Number of high school graduates planning or interested in going into teaching-possibly as stated on ACT intended field of interest/college major. Number of minority teachers per district. Number of minority principals per district. Percentage of minority teachers who leave teaching within five years and their reasons for leaving.

State Board of Education Goal	Accountability Seminar Goal	Possible Indicators
9. *Salaries for professional educators will be competitive in the marketplace and linked with performance standards and measures.*	Develop adequate supply of quality teachers. Make teaching a desirable profession.	Number of class preparations high school teachers must prepare. Supply and demand study that has been prepared in Arkansas or new one. Number of provisional certificates authorized by State Education Agency. Number of teachers teaching out of field. Demographics of current teaching workforce. University teacher training entrance and exit degree requirements. Need higher salaries to compete for new teachers and need alternative certification. GPA of teachers in training and of other liberal arts undergraduates. Number of high school graduates planning or interested in going into teaching - possibly as stated on ACT intended field of interest/college major. Teacher turnover rates. Salary surveys of nation, region and contiguous states. Number of students with high ACT scores going into education. Number of teachers completing advanced degrees.

Appendix C

Arkansas Educational Indicators Seminar
Speakers/Panelists

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