

MEASURING SCHOOL PROCESSES

By Victoria L. Bernhardt

Schools are perfectly designed to get the results they are getting now. If schools want different results and improved student achievement, they must measure and then change the processes to create the results they really want. Schools cannot improve what is not measured.

School processes define what learning organizations, and those who work in them, are doing to help students learn: what they teach, how they teach, and how they assess students. School processes include programs, curriculum, instruction and assessment strategies, interventions, and all other classroom practices that teachers use to help students learn.

To understand the student achievement results districts and schools are getting, administrators and teachers must document and measure the processes that are being implemented. That information, aligned to the results, will help them understand what to improve to get different results. Sharing how they are getting their successes will help them understand what processes are working. Understanding what processes are not getting desirable results will inform them of what processes should be changed or eliminated. To truly know if a reading program is successful or not, a school district has to know how reading is taught in each classroom in every school.

How can anyone be sure that a particular set of new inputs will produce better outputs if we don't at least study what happens inside?

~ Paul Black and Dylan Wiliam

Measuring Processes

Measuring processes is one of the most important things we can do to improve K-12 education. Processes are the only things that we have extensive control over in education. However, they are some of the hardest things to measure. Measuring the processes used in instruction is a task we all have to

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work on to understand the impact of our processes and to understand how to improve teaching and learning. If the implementation of specific processes is not being measured or monitored, those processes are probably not being fully implemented.

Districts and schools must devote time to the management and measurement of school processes so successful processes can be shared and implemented districtwide, and unsuccessful practices can be redesigned or eliminated.

How Do We Measure Processes?

There are many ways to measure processes. Qualitative and quantitative measures can be applied. Qualifiable school process measures might

**If you are not monitoring and
measuring program implementation,
the program probably does not exist.**

include program/course flow, focus groups, interviews, and/or questionnaire results. Quantifiable school process measurement could include: classroom observations, program enrollments, and student achievement results. We need to think logically about what we need to know about a program, and match these thoughts/questions to the measurement.

The **Measuring Processes Table** (next page) illustrates how logical it can be to measure such things as curriculum, instruction and assessment strategies, staff collaboration, environment, etc. The table describes what we want the processes to look like—which gives us insight into the purpose of the processes, and how each process can be measured. *For example, if we are measuring curriculum, we are looking for it to align to content standards and grade level expectations; we would want to find evidence that there is a continuum of learning that is interesting and makes sense for the students, and that it is being implemented in every classroom. We can measure these through curriculum mapping, process flowcharting, classroom/teacher observations, student achievement results, questionnaires, and a tool created to assess the implementation of the vision.*

MEASURING PROCESSES TABLE

<i>What do we want the process to look like?</i>		<i>How can it be measured?</i>
<i>Curriculum</i>	Aligned to the standards and grade level expectations; continuum of learning that makes sense; interesting; implemented in every classroom.	<ul style="list-style-type: none"> ♦ Curriculum mapping ♦ Process flowchart ♦ Classroom/teacher observations ♦ Student achievement results (student data and student work) ♦ Staff, student, parent, and standards questionnaires ♦ Vision assessment tool
<i>Instruction</i>	Agreed upon strategies implemented in every classroom, including small and large group instruction, flexible groupings, differentiated instruction, scheduling, designed to meet the needs of whom the school has as students.	<ul style="list-style-type: none"> ♦ Process flowchart ♦ Classroom/teacher observations ♦ Student achievement results (student data and student work) ♦ Staff and student questionnaires ♦ Vision assessment tool
<i>Assessments for learning</i>	Formative assessments aligned to the standards, grade level expectations, and high stakes summative assessments.	<ul style="list-style-type: none"> ♦ Process flowchart ♦ Classroom/teacher observations ♦ Student achievement results (student data and student work) ♦ Staff and student questionnaires ♦ Vision assessment tool
<i>Staff collaboration</i>	Teachers meet in teaching teams to review student progress (student data and student work), to improve the implementation of the vision, and to adapt processes.	<ul style="list-style-type: none"> ♦ Staff questionnaire ♦ Vision assessment tool ♦ Leadership structure
<i>Environment</i>	<p>Students feel like they belong, are challenged, are cared for, etc.</p> <p>Teachers feel supported and that they are working in a collaborative environment; teachers have high expectations for students and believe all can learn.</p> <p>Parents feel welcome at the school, and know what they can do support their child’s learning; effective home-school communications.</p>	<ul style="list-style-type: none"> ♦ Student, staff, and parent questionnaires ♦ Demographic data that indicate how students and staff are treated
<i>Leadership</i>	Leadership structure that helps everyone implement the vision; supportive of all staff, students, and parents; supports the continuous improvement of the organization and all personnel.	<ul style="list-style-type: none"> ♦ Student and staff questionnaires ♦ Leadership structure that helps everyone implement the vision ♦ Evaluation tools and strategies
<i>Organization that makes sense</i>	Professional learning that supports individuals in implementing the vision.	<ul style="list-style-type: none"> ♦ Demographic data ♦ Organizational, student, staff, parent questionnaires ♦ Processes that make sense for students

Mapping Processes

Mapping processes can help schools clarify what is being done now, so that all those involved can understand how they are getting current results, and can determine what needs to change to get different results. A flowchart, or other mapping tools, allows everyone to see the major steps in a process, in sequence, and then evaluate the differences between the theoretical and actual, or actual and desired, results. The intent is to agree on standard and desired practice, and then improve the current processes.

A process map, or flow chart, is a visual representation of a process that helps staffs:

- ◆ assess what is really being implemented within a process,
- ◆ understand how they get the results they are getting,
- ◆ determine the cause of a problem or challenge,
- ◆ assist with improving a process, and to
- ◆ serve as a component of training and communication, so all staff can understand and implement the same processes.

Process mapping can be constructed both informally and formally. An informal method is best for getting started and securing buy-in; the formal method ensures rigor and accuracy.

A well-prepared process map:

- ◆ Builds common understandings of a whole process. (It is best if staff works together to create the map.)
- ◆ Communicates process-related ideas, information, and data in an effective visual form.
- ◆ Identifies actual or ideal paths, revealing problem areas and potential solutions.
- ◆ Identifies areas for improvement or inefficiencies.

- ◆ Breaks processes down into steps using consistent, easily understood symbols.
- ◆ Is inexpensive and quick to produce, and gives staffs the opportunity to experience a shared view when they participate in constructing it.
- ◆ Shows intricate connections and sequences clearly.
- ◆ Aids in communication, problem solving, and decision making.
- ◆ Promotes understanding of a process in a way that written procedures cannot.
- ◆ Enables the standardization of a process.
- ◆ Provides a way to monitor and update processes.

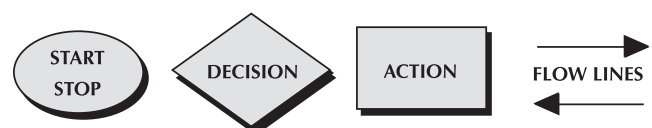
One good process map can replace pages of words.

Mapping Processes with Flowcharting Tools

Before flowcharting, staffs need to clarify the purpose of the process. This includes:

- ◆ Determining why we are doing this process: what are the intentions of the process/program?
- ◆ Identifying the output of the process: what are the desired results?
- ◆ How will we know it is being implemented?
- ◆ What are the inputs and the relationships of the factors as they transform into outputs?

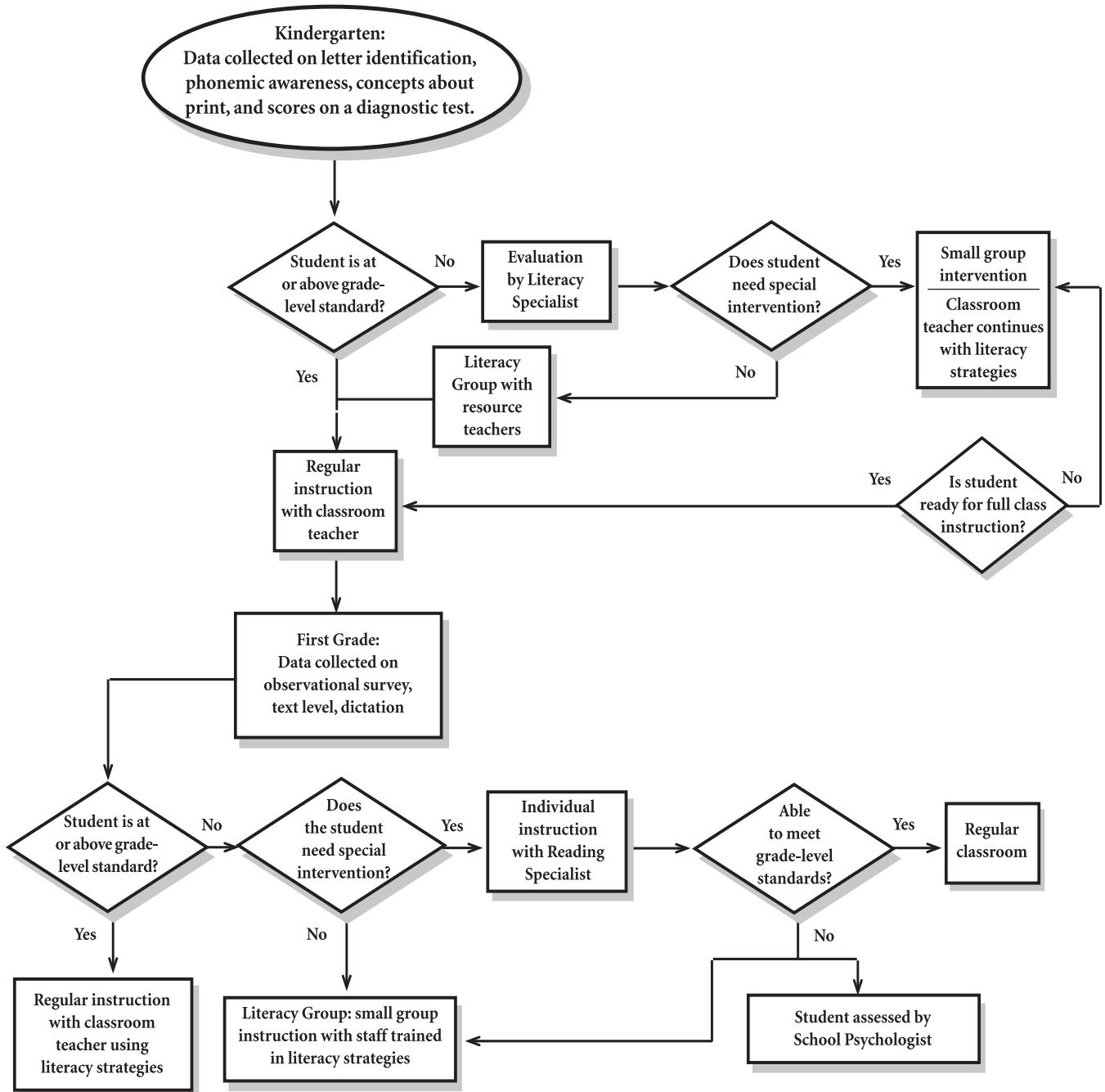
Many types of flow charting tools are available. We like to use *Inspiration* (www.Inspiration.com) to create flow charts because of its versatility and ease of use. Basic flowcharting tools include the following symbols:



Example A

Below is an example of a *Reading Program Placement* process used by Elementary School A. You can see the various steps that occur in the process and how actions follow decisions. This type of flowchart can be used to determine what processes are currently in place and what needs to change if these processes are not getting the desired results.

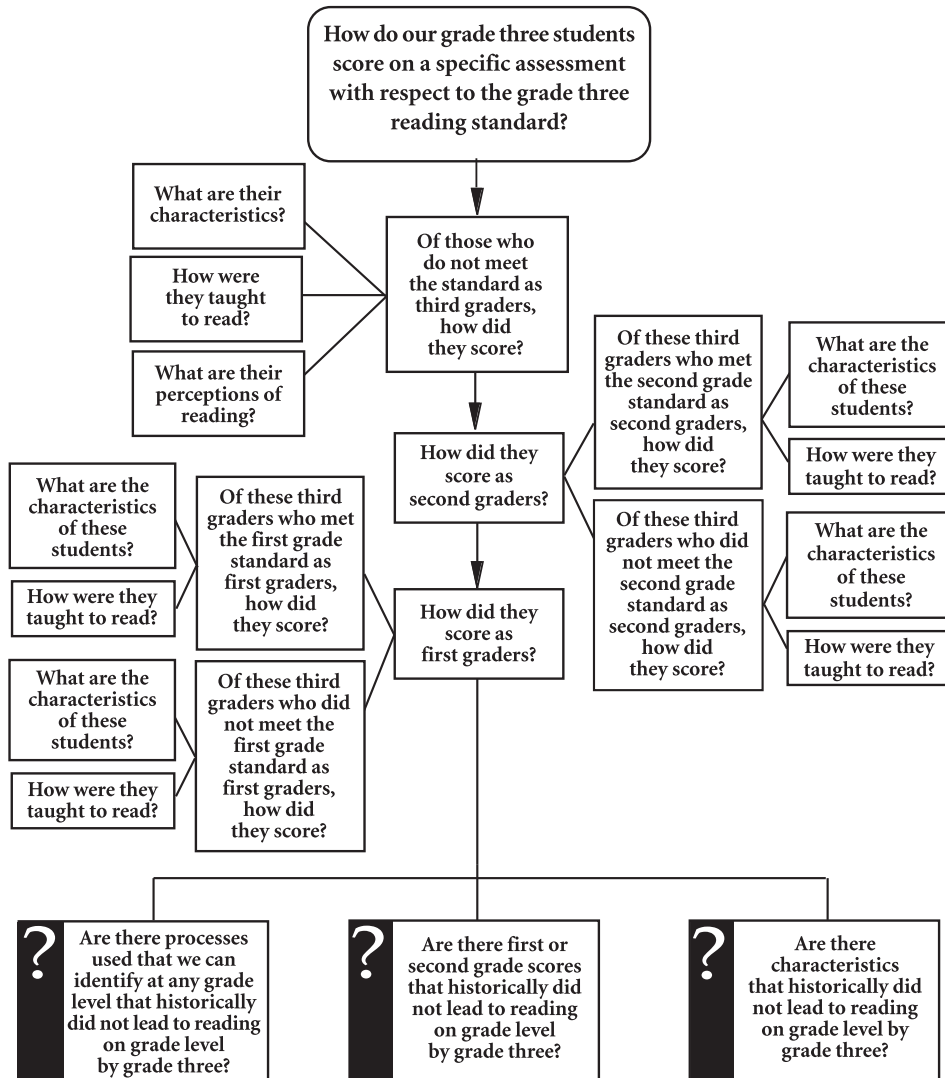
EXAMPLE READING PROGRAMS PLACEMENT



Example B

The example below shows a flowchart of how to look at the data related to students who do not meet the third-grade reading standard. A similar flowchart could be made for the students who meet the standard.

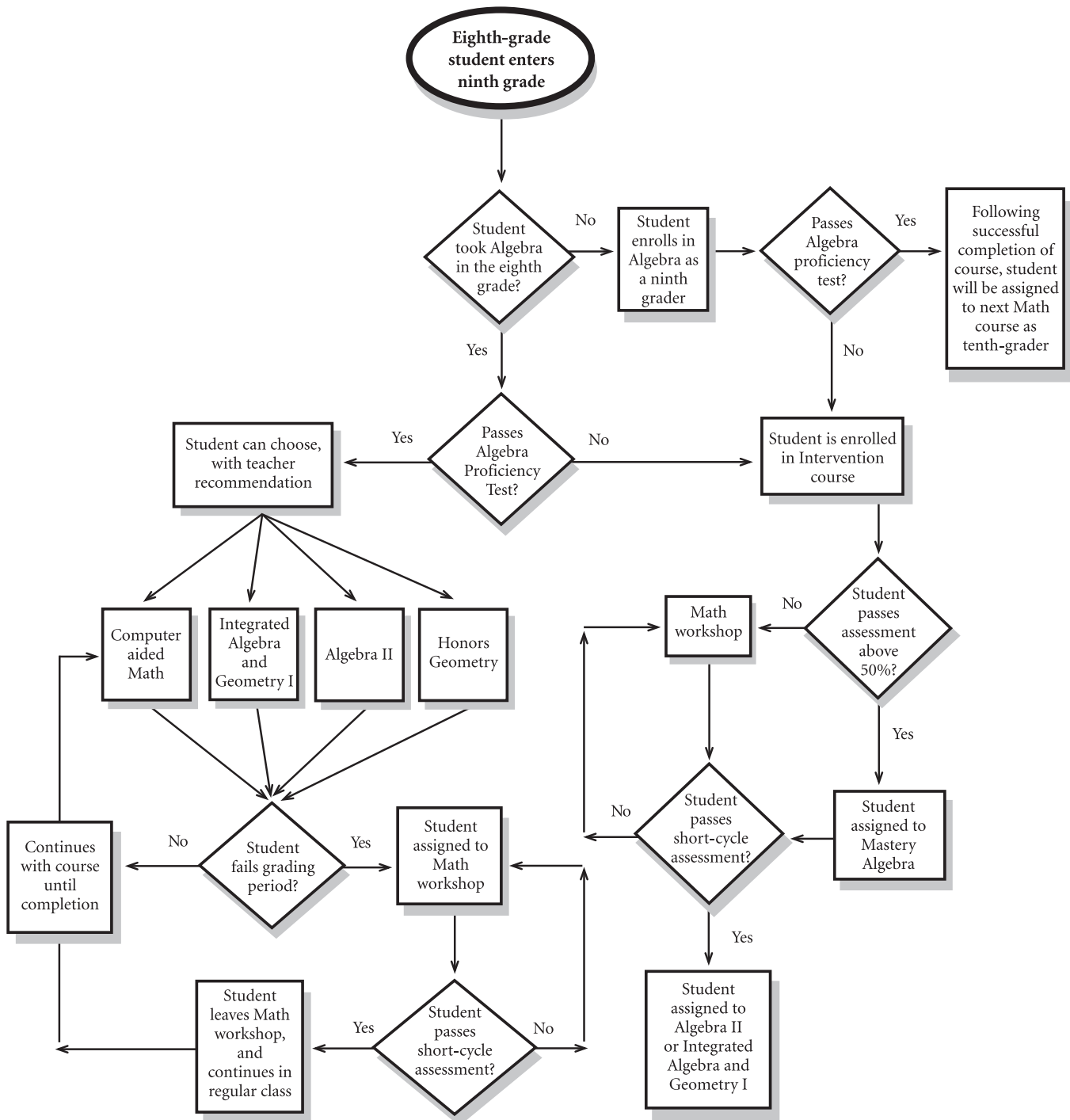
EXAMPLE DATA FLOW: ELEMENTARY



Example C

Below is an example that shows how a particular high school places its new ninth-grade students in Math courses. The flowchart also shows what the school does when the students are not learning the Math concepts.

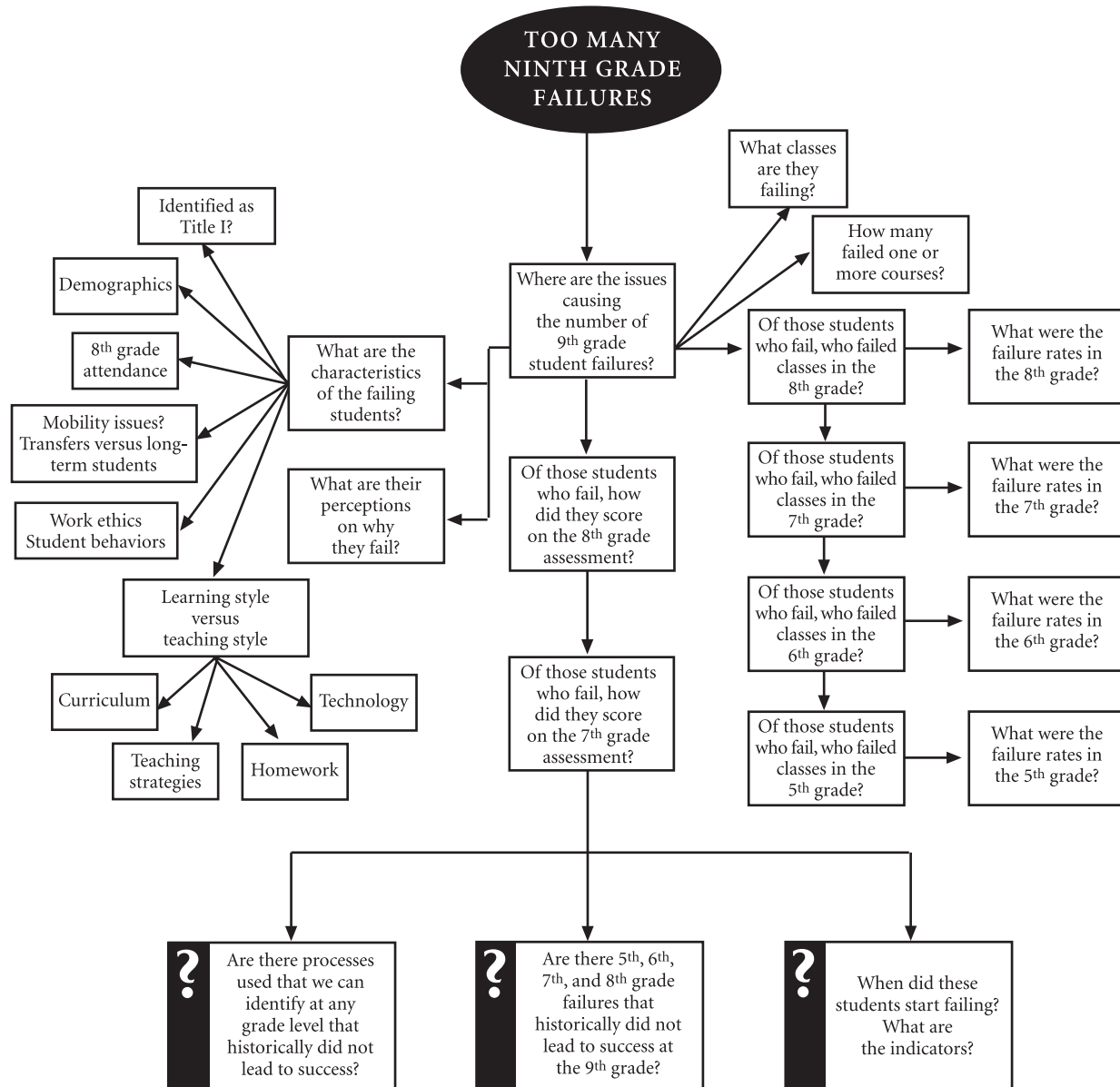
EXAMPLE PROCESS FLOWCHART: HIGH SCHOOL MATHEMATICS PLACEMENT



Example D

Example D shows how teachers in one high school planned to follow the data to understand how to predict and prevent failures.

EXAMPLE DATA FLOW: SECONDARY



Flowcharts are useful tools for exposing problems and incomplete thinking in processes. Improvement cannot occur until problems are identified and solutions are proposed. This requires gathering data on student achievement results and on the processes used to produce these results. In addition, data on demographics and perceptions can help us acquire a true picture of which processes are working with which students. We cannot just assume that we know which processes work best; we must analyze what instructional strategies are actually being implemented and which ones are getting the desired results.

Measuring Program Implementation

To measure and improve programs and processes, we should start by making a list of the programs and processes that are being implemented right now, using the **Measuring Programs and Processes Worksheet** (Attachment A). Some of the programs and processes you will want to measure might include—

Programs

(Modifications, accommodations, where services are provided, who receives services, how identified, curriculum/instruction, graduation rates, performance, retention, transition—all these areas need to be considered as part of the measurement of any program or process.)

A+
 Accelerated Reading/Math
 After School
 Alternative
 At-Risk
 Before School
 Bilingual
 Credit Programs
 Dropout Prevention
 English as a Second Language

Gifted
 JROTC
 Mentoring for Freshmen
 Parents as Teachers
 Preschool
 Reading First
 Reading Recovery
 School to Work
 Special Education
 Supervised Business Experience
 START
 Title Programs
 Tutoring
 Vocational

Instruction/Curriculum

Character Ed
 Class Within Class
 Cooperative Learning
 Differentiated Instruction
 Hands-on Learning
 Professional Learning Communities
 Project Construct
 School Within a School
 Smaller Learning Communities
 Technology Integration

Some of the questions you might want to answer, which are included in the **Measuring Programs and Processes Worksheet**, are:

- ◆ What is the intention or purpose of the program or process? What are the desired results/objectives?
- ◆ How will you know the objectives are being met?
- ◆ Whom is the program intended to serve?
- ◆ Who is being served?
- ◆ What is the degree of implementation?
- ◆ How is implementation to be measured?
- ◆ What are the results?

Summary

Processes are a major category of data in comprehensive data analysis. School processes are one of the most important puzzle pieces for determining what is working and what is not working. We want staffs to work together to create a continuum of learning that makes sense for all students and leads to student learning increases. To get different results, we have to change the processes that create the results. To change the processes, we have to agree on what is being implemented right now. Then, together, we need to figure out what we want to implement and how we are going to get there.

ATTACHMENT A

MEASURING PROGRAMS AND PROCESSES WORKSHEET

PROGRAM: SPECIAL EDUCATION		WHOM IS THE PROGRAM INTENDED TO SERVE?	WHO IS BEING SERVED?	IMPLEMENTATION			WHAT ARE THE RESULTS?
What is the intent, desired results/objectives?	How will you know the objectives are being met?			What would it look like if the program was fully implemented?	To what degree is the program being implemented?	How is implementation being measured?	

About the Author

Victoria L. Bernhardt, Ph.D., is Executive Director of the *Education for the Future Initiative*, a not-for-profit organization whose mission is to build the capacity of all learning organizations at all levels to gather, analyze, and use data to continuously improve learning for all students. She is also a Professor (currently on leave) in the Department of Professional Studies in Education, College of Communication and Education, at California State University, Chico. Dr. Bernhardt is the author of the following books:

- ▼ *From Questions to Actions: Using Questionnaire Data for Continuous School Improvement* (2009) (with Bradley J. Geise) describes how to create, administer, analyze, and use questionnaires as a tool to improve teaching strategies, programs, and learning organizations.
- ▼ *Data, Data Everywhere: Bringing All the Data Together for Continuous School Improvement* (2009) is an easy-to-read primer that is conversational and accessible. This newest book will help your faculty and staff become comfortable with using data to drive a continuous school improvement process.
- ▼ *Translating Data into Information to Improve Teaching and Learning* (2007) helps educators think through the selection of meaningful data elements and effective data tools and strengthens their understanding of how to increase the quality of data and data reports at each educational level.
- ▼ A four-book collection of using data to improve student learning—*Using Data to Improve Student Learning in Elementary Schools* (2003); *Using Data to Improve Student Learning in Middle Schools* (2004); *Using Data to Improve Student Learning in High Schools* (2005); and *Using Data to Improve Student Learning in School Districts* (2006). Each book shows real analyses focused on one education organizational level and provides templates on an accompanying CD-Rom for leaders to use for gathering, graphing, and analyzing data in their own learning organizations.
- ▼ *Data Analysis for Continuous School Improvement* (First Edition, 1998; Second Edition, 2004) helps learning organizations use data to determine where they are, where they want to be, and how to get there—sensibly, painlessly, and effectively.
- ▼ *The School Portfolio Toolkit: A Planning, Implementation, and Evaluation Guide for Continuous School Improvement*, and CD-Rom (2002), is a compilation of over 500 examples, suggestions, activities, tools, strategies, and templates for producing school portfolios that will lead to continuous school improvement.
- ▼ *The Example School Portfolio* (2000) shows what a completed school portfolio looks like and further supports schools in developing their own school portfolios.
- ▼ *The School Portfolio: A Comprehensive Framework for School Improvement* (First Edition, 1994; Second Edition, 1999). This first book by the author assists schools with clarifying the purpose and vision of their learning organizations as they develop their school portfolios.

Dr. Bernhardt is passionate about her mission of helping all educators continuously improve student learning in their classrooms, their schools, their districts, and states by gathering, analyzing, and using actual data—as opposed to using hunches and “gut-level” feelings. She has made numerous presentations at professional meetings and conducts workshops on the school portfolio, data analysis, data warehousing, and school improvement at local, state, regional, national, and international levels.

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