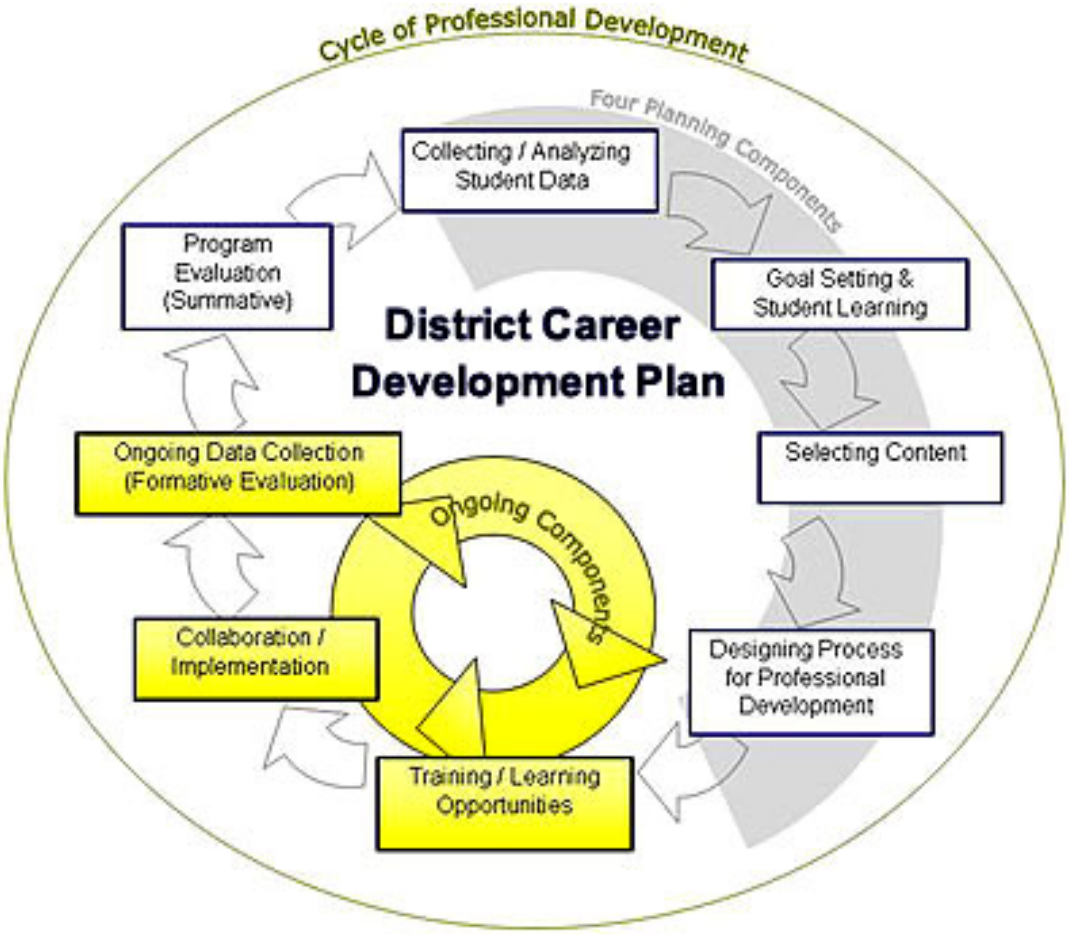
Part 2

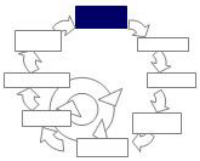
Iowa Professional Development Model
A Tour of the Components

Iowa Professional Development Model

Student Learning – the Center of School Improvement and Staff Development

Operating Principles
√ Focus on Curriculum, Instruction and Assessment
√ Participative Decision Making (School & District)
√ Leadership
√ Simultaneity





I. Collecting and Analyzing Student Data

The professional development process must ensure that teachers have adequate opportunities to learn and implement new curricula, instructional strategies, and assessments. Teachers need to have sufficient workshop and workplace supports to develop a deep understanding of the theory of the strategy/model they are learning. Professional development design will build in time for teachers to learn together and to collaborate with each other. *If teachers have opportunities to learn new content and implement it in their classrooms, the investment in professional development will pay off in increased student learning.*

A. Overview of the Component

Next Few Pages:
A. Overview of Component
B. Applying the Model's Operating Principles
C. Steps to Consider

Many sources of data are appropriate for decision-making about needed staff development. The key to data collection, however, is a focus on the students in a classroom, school, district, and/or state.

Collecting Student Skills Data

Data can be divided into roughly two categories: those data that indicate the status of skill development in areas of concern and those data that explore hypotheses to explain that status.

Standardized tests of reading, math and science, such as the ITBS and the ITED, are indicators of the status of skill development; they provide a measure of a student's current levels of understanding and proficiency with respect to same-grade comparison groups at a school, district, state or national level. When data are being examined to determine the current status of student skill and knowledge on the district content standards, it is critical that (1) district administrative personnel make available to principals data on their specific schools and (2) principals make available to teachers data on their specific students. Other examples of tests of student skill development include the diagnostic tests used by many K-3 teachers to determine mastery of beginning reading skills, criterion-referenced tests developed by many districts to measure the extent to which students are meeting the content standards of the curriculum; and teacher-made tests that examine the mastery of specific learning objectives. The following types of data explore hypotheses to account for current levels of student skill, understanding and proficiency.

- Information about students' individual characteristics; such as:
  - Hearing and vision acuity
  - Sleep and nutrition patterns
  - Indicators of abuse and/or drug use
  - Attention disorders and learning disabilities
- Information about the professional staff responsible for students' learning, such as the staff's:
  - Teacher preparation and credentialing
  - Expectations of high achievement levels for **all** students
  - Attitudes toward diverse social and ethnic groups

- Information about the school and home environments (e.g., leadership's vision for student growth and clarity with respect to means and ends, the presence or absence of collegial norms, attitudes toward and quality of professional development programs, socioeconomic status, number of migrant families, etc.).

Data about the implementation of current programs also fit into this category. For example, if a district has adopted a math curriculum that appears not to be affecting student math skills, it is important to examine the actual level of implementation of the program before discarding the investment in materials and training.

The types of data collected to explore possible explanations for student learning, or lack of learning, are extremely diverse and are indicative of the beliefs of professionals in the workplace as well as the history and norms of individual schools, districts and communities.

Multiple Stakeholders Involved

Because the CSIP process involves multiple stakeholders (e.g., teachers, administrators, parents, community members, etc.) in the analysis of data to determine student need, it is critical to the entire improvement process that data be classified and shared in ways that are clear for both education professionals and the public. The added benefit from broad participation at the data analysis and goal setting stages is the building of a shared understanding of educators' needs for continuous learning aimed at addressing student learning needs.

Analyzing Data

Districts/schools that are collecting data on student learning in order to set goals for improved student achievement and make decisions about professional development that will advance them toward those goals have many options available to them. In studying data, it is important to look for **patterns** and frequencies of phenomena. As part of the CSIP process, all schools/districts will need to collect the first type of data – current levels of student skill development – to determine the current achievement patterns of their students and implications for needed improvements. Are subgroups of racial, ethnic, socioeconomic status (SES), limited English proficient (LEP), gender, and individualized education program (IEP) populations being equally well served by current educational programs? Are reading comprehension or math problem-solving difficulties distributed across a broad range of students or do problems cluster in subgroups? What percentage of the total student population and of each subgroup are meeting the expectations laid out in district standards and benchmarks? Do scores vary markedly between teachers or grade levels?

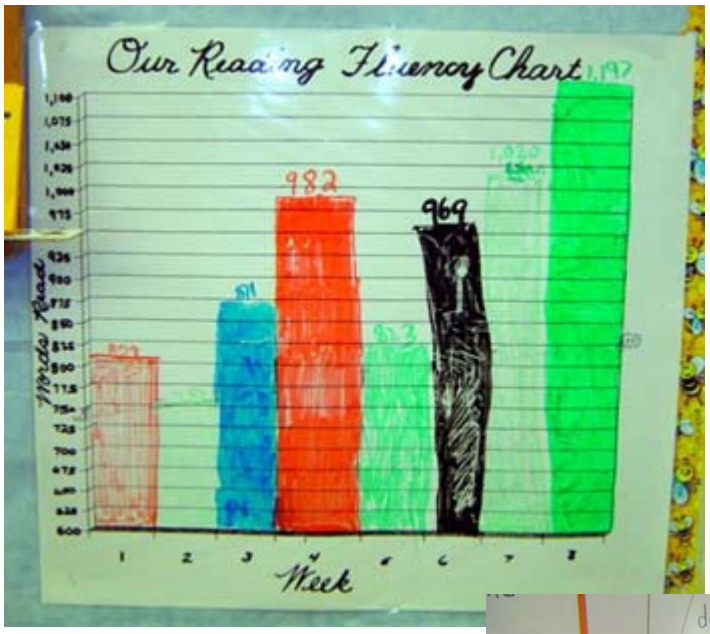
It is from these data that goals for student learning are formulated, so it is critical that schools have sufficient data and examine it in enough depth to determine the current levels of student proficiency in the basic subjects.

Districts/schools will also need to examine data with the *potential to explain* the student needs identified. Two sources of data are good starting points because of their explanatory power –the current curricular, instructional and assessment programs being used and research about successful programs.

Current Curricular, Instructional and Assessment Programs. In settings that serve large numbers of students living in poverty, information about the nutrition and health status of students should help education professionals ameliorate conditions that could depress or prevent students' abilities to profit from quality instructional programs. All districts should examine their dropout data to determine how many of their students fail to complete high school and who those

students are. Data on school climate can identify levels of expectation for student learning, the presence or absence of collaborative structures, and the understanding of school and district goals for student achievement. Often, areas of concern raised by these types of data can be addressed in conjunction with or in support of the district's and/or school's main improvement agenda.

Examination of multiple sources of data will enable schools and districts to determine the current status of student learning, identify needs for improvement, and provide avenues to explore to advance long-range and annual improvement. The concept of simultaneity is extremely important at this stage – as goals are set and content selected for staff development that will advance the district/school toward its student achievement goals, multiple sources of data may indicate that poor math skills require modifications in the standards and benchmarks, new teaching strategies that put that curriculum within the reach of students, and the introduction of collaborative structures that enable teachers to begin the process of collectively working toward a shared goal.



B. Operating Principles – Collecting & Analyzing Student Data

The Model's Operating Principles describe actions and priorities that are essential for the ongoing sustained implementation of professional development at the district, building, and classroom level. Attention to these Operating Principles occurs as needed throughout the cycle of professional development.

Operating Principles
√ Focus on Curriculum, Instruction and Assessment
√ Participative Decision-making (School & District)
√ Leadership
√ Simultaneity

Actions Associated with Three Operating Principles

The actions listed below are examples of how the four Operating Principles may be applied to support the collection and analysis of student data:

Focus on Curriculum, Instruction and Assessment

- Assessments are aligned with instruction and curriculum.
- The accountability systems in place clearly focus on instruction and inform decisions pertaining to curriculum, assessment, and instructional practices.
- Efforts are made to reduce time consuming data collection procedures that don't inform instructional decisions.

Participative Decision-making

- A leadership team with teacher and administrator representation plays an active role in collecting, organizing, analyzing, and discussing data.
- Routines are established for regularly scheduled opportunities for all staff to discuss classroom, building, and district level student data.
- Data driven leadership (DDL) or some other process is used to assist the faculty in generating questions, organizing, and displaying data to support decisions making

Leadership

- Principals routinely and publicly use data to make decisions (modeling the use of data to establish building-wide norms of inquiry).
- Each staff meeting includes discussion of student performance and analysis of data.

Simultaneity

- Use multiple sources of data to ensure decisions made at the district and building levels prevent fragmentation.
- The study of data assists district leaders in setting professional development targets that will advance the district/school toward its student achievement goals.

Common Pitfalls When Collecting and Analyzing Student Data

- Only a few administrators and teachers work with data.
- Staff receives summary data statements, and never studies actual district, building, and classroom data.
- School staff members cannot select professional development content directed at specific student learning needs because item analysis data are not studied.

C. Steps to Consider – Collecting & Analyzing Student Data

The following steps are offered as a suggested guide to help local districts collect and analyze student data for planning professional development. The professional development planning process will not always follow a linear sequence, so the sequence below is not critical. The Tools and Resources suggested for each step are available in the Part 4.

- **Generate questions to study student needs:**

  PD Provider facilitates discussion and coaches at district level to generate specific questions to ask of data.

  PD Leadership Team facilitates discussion by all teachers at each building to generate specific questions to ask of data.

- **Collect data to answer questions:** Identify and document data already collected in the district to answer the questions generated;

  Analyze and display data; Use data analysis tools (e.g. EXCEL pivot tables) to review how various groups and subgroups are performing on various assessments. Summarize findings.

- **Conduct item analysis of ITBS/ITEDS and other District assessments:** Generate areas of strengths and areas of weakness for each grade level and sub-group. Develop data display.

- **Organize answers to questions and facilitate building-level meetings with all faculty:**
  - Review questions and answers collected to date
  - Generate new questions that emerge from data analysis
  - Consider additional sources of data
  - Focus discussions on student learning, and set high expectations that all students can learn.

- **Consider the Operating Principles and identify actions to support data collection and analysis.**
- **Record Summary of Data Analysis in the CSIP**

In Part 4, Tools and Resources

2(data).1. Generate Questions to Study Student Needs:
a. Sample Q's to Ask of Data
b. QIC Decide Tool
c. What We Need to Know about Our Students

2(data).2. Where to Find Answers to our Questions

2(data).3. How to Find Answers for the Sample Questions

2(data).4. Iowa Public Schools: Comprehensive Student Assessment System

2(data).5. Organize and Analyze Data

2(data).6. ITBS Item Analysis Summary

2(data).7. Additional Measures

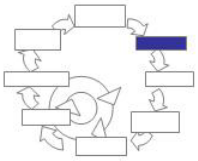
2(data).8. Analyzing & Reporting Our Data – Response Sheet

2(data).9. Operating Principles for Collecting/Analyzing Data

3(stan)1. Worksheet for Drafting District Career Development Plan

* Also http://www.state.ia.us/educate/ecese/asis/csi/documents.html

Notes



II. Goal Setting and Student Learning

Clear statements of expectations regarding student learning allow schools and districts to focus professional development resources and energy on achievable goals. To meet the goals identified in the Comprehensive School Improvement Plan, the intent of professional development is to increase the learning of all students while attending to the learning needs of subgroups of students. If professional development content is to accomplish the desired increases in student learning, the goals for student learning must be explicit and concrete.

A. Overview of the Component

Next Few Pages:
A. Overview of Component
B. Applying the Model's Operating Principles
C. Steps to Consider

Once data are analyzed, goals can be stated. When a district determines that reading achievement needs to be improved, the goal must be much more specific than a desire to "increase scores" on a reading test. Close scrutiny of reading achievement data will reveal if students need decoding and word attack skills, increased sight vocabulary, comprehension strategies, improved fluency, skill in reading non-fiction and technical material, etc. Likewise, when the study of student data identifies poor math achievement, closer scrutiny of test data (e.g., item analysis) can help districts and schools determine if the problem is generalized across all areas of math or specific to problem solving, number concepts, algorithms, or the application of math concepts to real-world situations. Specific goals enable faculties to decide exactly what they need to learn and provide focus throughout an improvement effort.

Typically, district and school goals are aligned but not congruent. After examining data for all students in a district, district leaders may identify literacy as the primary target for improvement. It may further set goals, such as "By the spring of 2004, 75 percent of students (the entire student population as well as of each major subgroup) will be reading on grade level, and 75 percent of students will meet or surpass the grade level benchmark for writing." The task then is for each school to closely study student data with respect to literacy. Elementary School A may determine that its reading program is currently resulting in grade-level achievement for 70 percent of its students while only 55 percent of students are meeting the writing benchmarks. Its goal for improvement might thus be to improve writing scores to passing for an additional 10 percent of its students in each of the next two years, and its staff development program is likely to focus on writing instruction and assessment. High School B, however, discovers in its study of student data that only 48 percent of its students are currently reading at grade level and 51 percent are meeting writing benchmarks. Clearly, both areas are in serious need of attention. This school's goals might include raising to grade level the reading scores and writing benchmark of an additional 15 percent of students per academic year. The professional development plan would then logically include the implementation of reading classes for struggling readers, with a small group of faculty engaging in staff development to support that effort. The English faculty might focus its staff development efforts on writing instruction and assessment to meet its annual goal, and the entire faculty might support the efforts of the reading and English departments by learning and implementing "reading across the curriculum" strategies and supporting an extensive recreational reading program.

GOALS AND PROFESSIONAL DEVELOPMENT TARGET

Listed below are various terms used for setting goals as part of the CSIP and the professional development planning. A description of each type of goal is included.

Student Learning Goal -- State Requirement

A student learning goal is a general statement of expectations for all graduates Student learning goals are broad and general. They are aligned with the district mission statement. Example: Prepare students to engage in life-long learning.

Long Range Goal -- State Requirement

Long range goals describe desired targets to be reached over an extended period of time. Example 1: All K-12 students will achieve at high levels in reading comprehension, prepared for success beyond high school. Example 2: By 2013-14 all students will be proficient in reading, math, and science as measured by the ITBS and ITED. (This is aligned with NCLB)

Annual Improvement Goal (AIG) -- State Requirement

AIGs are based on data from at least one district wide assessment. The AIGs describe the desired annual increase in reading, mathematics, and science (and other curriculum areas-as appropriate) for all students, for particular subgroups of students, or both. Annual improvement goals must be measurable and address improvement of student learning, not maintaining of current levels of achievement.

A district may use its Annual Measurable Objectives (AMOs) under NCLB as its annual improvement goals for reading and mathematics required by Chapter 12. For example, if a school is performing below the state's trajectory, the state's target AMO can double as the AIG. If a school is performing above the state's trajectory, then the school's own trajectory is the baseline. Goals should be set to improve each year.

Annual Measurable Objective (AMO) -- Federal Requirement

AMO is the target on the state trajectory for reading and mathematics proficiency for purposes of measuring adequate yearly progress.

The goals we develop in this seminar will support the attainment of annual goals so that content for professional development can be aligned with immediate student need.

Building-level Professional Development Target – Non-regulatory Guidance (Essential for determining PD Content)

Each building sets a target for professional development using district long-range and annual improvement goals and building-level data. The professional development target is more specific about instructional content than the district level annual improvement goal.

Thus, while the CSIP and Teacher Quality legislation expect each district to study the achievement data for all its students and set goals for improved student learning, individual schools within districts will need to plan how they will respond to district goals, given the specific data for the students in their building. This is not to suggest that schools must submit formal plans to the state, but rather that schools will need a plan to guide their own improvement efforts as they meet the state's expectations that individuals and schools align their improvement efforts with district improvement plans.

Setting the Professional Development Target

Although the federal (No Child Left Behind Act, 2001) and district goals may require the statement of specific gains in student achievement, it is recommended that for the purpose of operating within the proposed Iowa Professional Development Model, schools set a professional development target. The PD target describes exactly what it is they wish all their students to achieve. The PD target clarifies the purpose of the change effort and allows for continuous striving toward the ideal. The target clearly communicates to parents, students and staff the aspirations held for the building's children; the target also provides guidance for the prioritization of the myriad goals that must be included in CSIP. When the goals and the PD target at the top of the priority list motivate the drive for increased student learning, then staff development is free to address significant professional learning that can–and frequently does–translate into sizable student learning gains. The facing page further defines the relationship between a school's goals and the PD target.

Finally, when examination of student data reveals multiple needs, it is critical that the district/school focus on only one or two things at a time. Learning new curriculums and instructional strategies and the assessments to guide their use and determine their effectiveness takes considerable staff development time. Until schools are structured to significantly increase not only the time allotted for new learning opportunities for staff but time for collaborative study and work within the school day, existing resources will not support multiple initiatives at any one time.

Goal Setting Considerations

The Goal Statement forms the basis for the process of Professional Development so careful attention should be placed on formulating clear and accurate goal statements. A good way to remember how a goal statement should be defined is the old S.M.A.R.T. acronym used by many experts in goal setting, which stands for Specific, Measurable, Acceptable, Realistic, and Time-specific:

Goal statements form the foundation for high-quality Professional Development. A goal is written in enough detail to make sense to all stakeholders, connected to a plan of action, reviewed often, and updated as progress is made.

Specific	State clearly what you want.
Measurable	How will you know you will have accomplished your goal?
Acceptable	Do the necessary stakeholders agree with the goal?
Realistic	Is it realistic for your abilities and the given time period?
Time-specific	How are you going to track your progress?

B. Applying the Model's Operating Principles – Goal Setting and Student Learning

The actions listed below are examples of how the Model's Operating Principles support goal setting and student learning:

Operating Principles
√ Focus on Curriculum, Instruction and Assessment
√ Participative Decision-making (School & District)
√ Leadership
√ Simultaneity

Focus on Curriculum, Instruction and Assessment

- ❑ The district has selected a priority area for professional development that is based on the district student achievement goals as per the CSIP process.
- ❑ The priority area for PD targets student learning in an instructional academic area that addresses student needs established by data.

Participative Decision Making

- ❑ Communications from the district and building level indicate that student learning and the delivery of quality instruction is of the highest priority.
- ❑ The Leadership team has been engaged in planning and has contributed to the selection of the professional development priority.
- ❑ All faculty members understand and support the district focus. Each educator sees his or her job as being an important part of a larger effort. Teachers and administrators believe the district goals for student achievement can be accomplished.
- ❑ All faculty members share a sense of urgency that actions need to be taken to support the learning of all students, including low performing students.

Leadership

- ❑ District and building leaders are relentless in their efforts to focus their efforts and time on the agreed-upon district goals and priority for PD.
- ❑ When making a decision about professional development action, leaders anchor their decisions on the data and the established priority.

Common Pitfalls in Goal Setting and Student Learning

- ❑ District identifies too many goals and multiple priority areas.
- ❑ The priority area is too broad and results in a fragmented, menu-driven approach for designing professional development learning opportunities.
- ❑ Faculty members are unfamiliar with the goals/priorities and are unaware of data that established the rationale for these decisions.

Simultaneity

- ❑ Context – The Superintendent provides the vision, direction, resources, and support necessary for staff to develop and agree on a district-wide focus.
- ❑ Process – Regular, consistent communication processes with the School Board, schools, district staff and community are in place. All stakeholders are aware of the goals and professional development priorities.
- ❑ Content – The district has identified multiple goals and actions to meet student needs. To accomplish gains in student achievement the PD priority focuses on instructional content in an academic focus area.

C. Steps to Consider – Goal Setting and Student Learning

The following steps are offered as a suggested guide to help local districts select a focus for professional development. The professional development planning process will not always follow a linear sequence, so the sequence below is not critical. The Tools and Resources suggested for each step are available in the Appendix.

- **Acquire stakeholder input and develop goals**
  Follow established district procedures for involving appropriate teams e.g., CSIP Team, PD Leadership Team, Administrative Team, and School Improvement Advisory Committee. Teams will:
  - Discuss findings and analysis of data taking into consideration the state trajectories.
  - Set student Learning Goals, Long-range Goals and Annual Improvement Goals (AIG)/Annual Measurable Objectives (AMO); AYP reports.
  - See Example on DE website.

In Part 4, Tools and Resources

2(goal).1. Trajectories - State of Iowa & District

DE website with trajectories http://www.state.ia.us/educate/ecese/nclb/documents.html

DE website on CSIP technical assistance: http://www.state.ia.us/educate/ecese/asis/csi/documents.html

- **Narrow the AMO/AIG to set a specific target for professional development**

2(goal).2. Sample Goal Statements and Worksheets

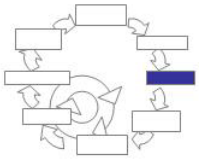
- **Disseminate Goals**
  - Share district goal(s) with board as per CSIP requirements. Disseminate goal(s) to community following CSIP requirements.
  - Communicate decisions
  - Facilitate opportunities for faculty to process the link between student needs and the district/building goal(s) and the PD target. Utilize teacher and administrator's insight into goal decision to share with the board and the community.

- **Record Annual Improvement Goals/Annual Measurable Objectives in the CSIP.**
- **Record PD target in the District Career Development Plan.**
- **As a team, review the operating principles for Goal Setting.**
  - Discuss how they may be applied to support goal setting and student learning in your district/building. Generate a list of actions needed to ensure that goal setting steps are fully supported.

2(goal).3. Operating Principles for Collecting/Analyzing Data

3(stan).1 District Career Development Plan Worksheet

Notes



III. Selecting Content

Content selected for collective study by schools and districts must be supported by evidence that it can accomplish the goals set for student learning. A district should be confident that the content they choose to study has been found to improve student achievement. A process for selecting content will include:

- A review of research on curricular and instructional innovations with a history of success in the areas identified for student improvement;
- A review of current knowledge and practices in the district/school;
- Documentation that the practices are supported by scientifically-based research; and
- Alignment with the Iowa Teaching Standards.

A. Overview of the Component

Next Few Pages:
A. Overview of Component
B. Selecting Content: Review of Scientifically Based Research
C. Terms Used When Making Decisions about Content
D. Applying the Model's Operating Principles
E. Steps to Consider

The analysis of student achievement data and the setting of specific goals for improvement assist in narrowing the choices when selecting content for professional development. Multiple choices are often available once a district/school has determined the area it needs to address. Before deciding on content, however, choices need to be screened. Is there research on the efficacy of the content for achieving a stated goal? Schools/districts may want to request external assistance from Area Educational Agencies, professional organizations, the Iowa Department of Education, universities or consultants when examining the claims made for various curriculums and instructional programs. Unfortunately, extreme claims that are supported by very little evidence abound in our field.

The Iowa Teaching Standards can be addressed when attending to the selection of content. After analyzing student achievement data, a district will next focus on what teachers can do to improve student achievement results. The opportunity to develop competence in content knowledge, the planning and preparation for instruction related to that content, and the opportunity to learn teaching strategies to meet multiple learning needs of students to meet those goals will enfold multiple Iowa Teaching Standards in the process. See Part 3, pages 5 and 6 for examples.

Once content and process are decided, a school/district is ready to select the training necessary in order to introduce the new content and to negotiate the process they want in order to learn the new material. For example, a school that has identified reading comprehension strategies as a critical student need will need to allow for sufficient instruction and demonstrations to ensure mastery of the new instructional strategies during the training sessions. Schools will also want to consider materials to be used in training settings and data collection around that content area.

This is possibly a good time to revisit the notion of simultaneity in the Iowa Professional Development Model. School A may decide that it needs additional information on assessments available to them for studying the impact of their planned literacy program on student learning. They may decide to seek professional development assistance in this area. School B, on the other hand, may have identified reading as a critical student need, but be concerned with student management

issues as well. School B may decide to seek professional development that will help them learn instructional strategies that not only address literacy but are highly engaging for students and thus increase on-task behavior. It is extremely important, when choosing professional development around a content area, to keep the focus on the classroom. A rule of thumb for allocating time to context, process, and content might well be an 80 percent allocation to content/process and 20 percent to context.

B. Selecting Content: Review of Scientifically Based Research

The No Child Left Behind Act (NCLB) has defined the term "scientifically based research" and has outlined criteria that are used for identifying scientifically based research.

The rationale provided below describes why it is important to select content that has a scientific research base. A district needs to feel confident that the content it selects for professional development meets the NCLB definition of scientifically based research, has been studied, and has shown to have an effect on improving student achievement.

When determining the level of quality of a scientifically based research article, the following standards have been used as a guide for the review of research articles in the state of Iowa. Based on the work of Campbell and Stanley (1963), the reviews reflect an evaluation of the study itself rather than the strategy or program it describes.

The following information and process can be used by a district to review the research related to the content it is considering for implementation as part of its professional development.

Rationale for Using a Scientific Research Base
(from NCREL Learning Point, Spring 2002)

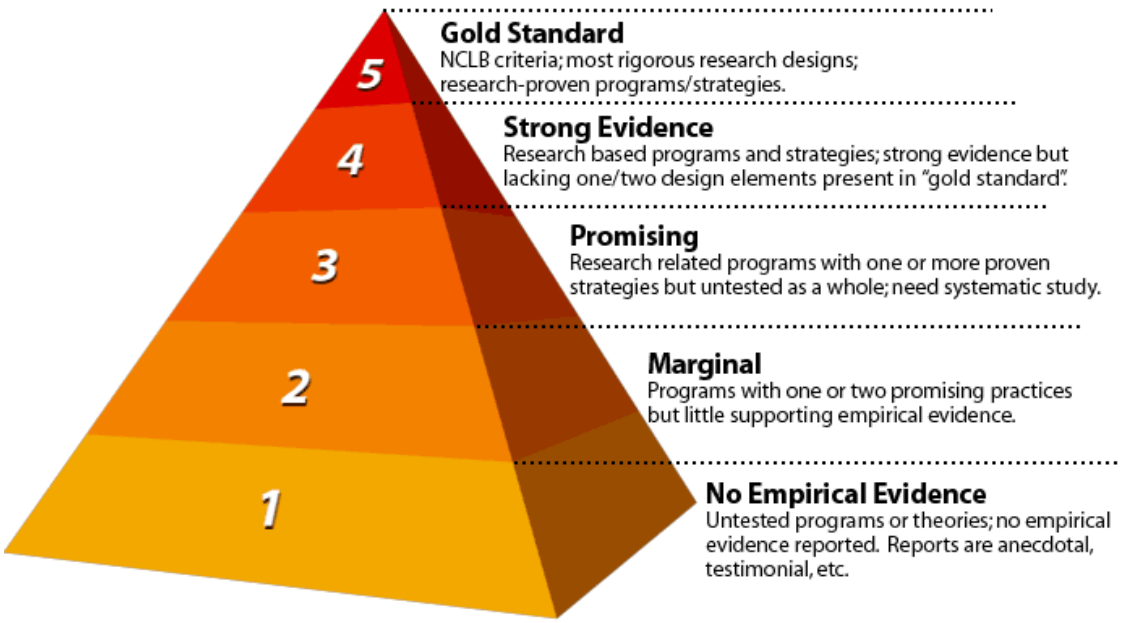
The focus on improving teacher effectiveness and raising student achievement through the use of scientifically based research (SBR) is fundamental to the successful implementation of the No Child Left Behind (NCLB) Act. The law requires knowledge and application of scientifically based research in the curricular areas of reading, mathematics and science, instructional methods and strategies, and professional development.

NCLB requires educators to be good consumers of SBR in specific areas that Congress believes would lead to improved student achievement if they were fully and accurately implemented. Being a good consumer of SBR practices and programs requires the district to do the following:

- Determine the relationship to data collected to determine the identified need.
- Assess the return on the investment.
- Determine the breadth of impact by determining if it [SBR] is serving a sufficient number of the targeted students.
- Assess immediate impact versus long-term results.
- Judge sustainability.

Through implementation of SBR practices and programs, educators will have greater confidence that what they are doing in the classroom will have the greatest likelihood of improving student performance. Part of the challenge will be to accept the research and be prepared to change policies and practices to reflect it. Educators must examine what is taught, when it is taught, and how it is taught.

Criteria for Reviewing Research



Described below are the five criteria for rating the quality of research studies included on the Iowa Content Network.

Level 5—Gold Standard. For the purposes of the content network reviews, the No Child Left Behind criteria for quality research represents the "gold standard," or best quality research. These criteria correspond to the top of the pyramid. Research designs most likely to produce "level 5" results are research designs that randomly assign subjects to treatment and control groups. They also provide control for most threats to internal validity and yield findings that generate the greatest confidence in student effect.

Level 4—Strong Evidence. Research designs most likely to produce "level 4" results do not randomly assign subjects to treatment and control groups, however other design elements control many of the threats to internal validity.

Level 3—Promising Studies. Research can be classified as "promising" under certain conditions. First, if a research design is weak but findings have been consistent across multiple replications, the treatment under study can be said to have promise. Second, if single strategies that have been studied under true experimental conditions are combined with multiple strategies, practices, and routines and the composite then studied with a weaker design with positive results, the findings can be classified as promising.

Level 2—Marginal. One-time case studies clearly fit into the marginal category. Many of the classroom experiments conducted by individual teachers in their classrooms and reported in popular, but non-peer reviewed, journals fit this classification. This is not to suggest that such reports are worthless, but rather that they fail to control for any of the competing hypotheses that might account for changes in the dependent variable.

Level 1—No Empirical Evidence. Two types of reports of successful innovations are common in the educational literature on curriculum and instruction, neither of which provides credible evidence that an innovation would consistently result in benefits to students:

- "Advocacy" Writing
  The first is "advocacy" writing—articles that passionately espouse specific curriculum content or an approach to teaching. These articles often provide extensive rationales for why teachers and schools should adopt specific practices but provide no data to document the effects on students with whom these practices have been employed. In some cases, claims of significant growth are made for specific practices, again with no documentation.

- Claiming Gains
  A second type of report frequently encountered in educational publications claims significant gains in student achievement for a district or state. At first glance, these reports appear to provide empirical evidence because they present test scores that show rising scores on a test over a period of years. Further reading of the report, however, reveals that the treatment was a high-stakes test or a system of rewards and sanctions for high and low performing schools.

We are left with no idea of what may have occurred differently in classrooms with students that might account for changes in student achievement.

Finally, testimonials and anecdotes frequently provided by publishers of educational materials to attest to the efficacy of their products do not meet the criteria for evidence that is commonly expected in scientifically based research.

Judging Scientifically Based Research (SBR) Content for PD: A Quick Guide

The following questions may be used when conducting a quick screening of a research study. When conducting a comprehensive review of a study, use *Tool 2content2*.

Quality

- **Did the study use control groups?**
  (Control groups increase the confidence we have in findings)

- **"N" (Number of subjects in study) – Was the N sufficient to allow for generalization?**
  (If a study draws conclusions from multiple teachers, schools, students, etc., we usually have greater confidence in the findings than if only one classroom and one teacher were studied.)

- **Were implementation data collected and reported?**
  (If we know the extent to which an experimental treatment was implemented in classrooms with students, we have greater confidence in the findings.)

Effects

- Did experimental students learn more than control students?
- What was the magnitude of effects?

C. Terms Used When Making Decisions about Content

Program

A "program" is a compilation of strategies, practices and routines which are implemented as a whole. Exact proportions of various strategies, practices and routines are often specified in an "ideal" implementation of the program. Examples of Programs include:

- Success for All.
  Success for All is an elementary reading program, which specifies strategies for teaching phonics and for one-on-one tutoring and practices such as grouping for instruction. In addition, staff development content and process, assessment procedures, and the monitoring of implementation are spelled out in detail.

- Cognitive Tutors for Algebra and Geometry.
  These secondary math programs specify cooperative strategies for use in teacher-directed classroom instruction, specialized software programs for individualized instruction of students, assessment instruments, proportions of time students are to be in teacher directed instruction and computer-assisted instruction and staff development for teachers.

Strategy or Model

A "strategy" or "model" is an approach to instruction designed around a theoretical base of how students learn. A strategy or model of instruction combines a series of skills and practices in a specific sequence. Examples of strategies/models include:

- Inductive Thinking Model
  The Inductive Thinking model is based on a theory of human information processing, namely that the examination of data, the classification of data based on observed similarities and the forming of generalizations based on multiple observations is a natural human activity and the foundation of all higher order thinking operations. The model has been applied to the design of curriculums in mathematics and science and to instructional objectives in reading, science, social studies and mathematics. Typically, the sequence of events in an inductive thinking model includes: 1) The teacher presents a data set; 2) students study items in a data set, identifying critical attributes of items; 3) students classify items in data set by common attributes; 4) students name categories; 5) students examine relationships between and among categories; 6) students form generalizations and apply to problem-solving situations.

- Link-Word Mnemonic Strategy
  The Link-Word Mnemonic strategy is based on theories of information storage and retrieval developed by cognitive psychologists. Major applications of this theory in schools are reported in the research by Pressley and Levin. The sequence of teaching skills in this strategy include: Planning -- 1) identify material to be learned; 2) develop link words corresponding with key concepts in material to be learned; 3) illustrate (pictorially) relationships between link words and materials to be learned. Instruction – 1) present material to be learned; 2) introduce link words and have students rehearse; 3) explain illustration and have students rehearse the connections between link words and key concepts.

Practices/Routines/Skills

Practices, routines, and skills are discrete behaviors and procedures employed by teachers during the course of planning, organizing for, and conducting instruction. Examples include:

- Practices
  Examples of practices include grouping students by ability for instruction, grouping students for cooperative learning tasks, and the assigning and checking of homework.

- Routines
  Examples of routines include rules for student behavior and consequences for violations of classroom rules, order of instructional activities during a period or school day, make-up of missed work when students are absent, etc.

- Skills
  For teachers, examples of skills include the ability to ask questions of varying cognitive complexity and the ability to appropriately reinforce students for desired behavior;
  For students, examples of skills include the ability to locate a specific word in the dictionary or textbook glossary or the ability to identify structural components of words (e.g., prefixes, suffixes).

D. Applying the Model's Operating Principles – Selecting Content

The Model's Operating Principles describe actions and priorities essential to supporting the selection of content. Attention to these Operating Principles occurs as needed throughout the cycle of professional development.

Operating Principles
√ Focus on Curriculum, Instruction and Assessment
√ Participative Decision-making (School & District)
√ Leadership
√ Simultaneity

Note the areas that align with the Iowa Teaching Standards.

Actions Associated with Three Operating Principles

The actions listed below are examples of how three of the four Operating Principles may be applied to support the selection of content:

Focus on Curriculum, Instruction And Assessment

- The content selected for professional development is focused on instruction. The full faculty, administrators, board members, and community members are knowledgeable about what the focus is, the rationale for its selection, and why it is critical to aim at instruction.
- Careful review of research studies has provided evidence that the instructional practice selected for professional development has been proven to be effective. The studies reviewed document student achievement results in settings where the practice was implemented with students similar to our population.
- Deliberate effort has been made to ensure that the content selected aligns with the district standards and benchmarks.
- The assessments being conducted measure the acquisition of skills/behaviors that are the focus of the staff development. The assessments are sensitive enough to show gains that are the result of students experiencing the teachers' implementation of what is being studied in professional development.

Participative Decision Making

- Teachers and administrators are involved in considering and studying the various options being considered for potential professional development offerings. Teachers participate in the study of the research base prior to giving input on the practices/strategies to be implemented.
- The decision making process includes teachers in the study and dialogue about which strategies have the greatest potential to meet the needs of students and whether or not the studies meet criteria for being high quality research.
- Iowa Teaching Standards 1 & 7 & 8.

Leadership

- Leaders are able to clearly describe the content that is the focus of professional development and are able to explain the rationale for selecting this content. The rationale includes an explanation of the data that provides the direction for the professional development initiative.
- Leaders pay careful attention to the work of studying data, understanding the students' needs, and being discerning about the research base to ensure that teachers are well informed about the rationale for choosing specific content. This increases the likelihood of implementation.

- It is a leader's responsibility to keep the criteria for research base content central in the making decisions about staff development content.
- Leaders have identified someone familiar with the Iowa Professional Development model to help the district and buildings with the design, implementation and evaluation of professional development. Leaders are accessible to the person(s) assuming this role and work collaboratively with this individual or individuals to routinely work with data, study implementation and structure collaborative processes to support the faculty's learning.
- Iowa Teaching Standards 1, 3, 5, 7, 8

Simultaneity

- There may be issues pertaining to context and process that require attention and time. These variables are not ignored but the greatest percentage of the district's time and resources remain focused on the content. The district practices the rule-of-thumb of applying approximately 80% of their professional development resources and time on content, and about 20% on factors pertaining to context and process.

Common Pitfalls

- When leaders confuse the concept of buy-in with voting on an initiative, they abdicate their responsibility to ensure that student need and powerful, research based remedies are aligned.
- At the point of choosing content, leaders often dissipate their focus by allowing variables other than student learning goals to guide content decisions.
- Leaders do not provide adequate time for working with external experts(s). When the external expert is available to provide technical assistance and support, the principal/administrative leader is busy attending to other responsibilities and does not take advantage of an important resource.

E. Steps to Consider – Selecting Content

- **Become familiar with how to use scientifically based research and the Iowa Content Networks**
  - Review the rationale for selecting practices that are supported by scientifically based research (SBR) and study the 5 levels used by the Content Network
  - Read "A Reader's Guide to Scientifically Based Research" by Robert Slavin and complete the accompanying Discussion Guide
  - Engage in the activity related to Scientifically Based Research.
  - Locate content area research by engaging in the Iowa Content Network Awareness Activity.

In Part 4, Tools and Resources

2(content).1. Slavin, R. (2003). A *reader's guide to scientifically based research.*

2(content).2. Scientifically Based Research Activity, with Sample of a Completed Documentation Form and a Discussion Guide

2(content).3. How to Use the Content Network Website

- **To find a strategy, a set of strategies or a model that supports your professional development target seek the support of a content expert.** (This could be your provider, someone your provider recommends, an AEA consultant, etc.)

- **Follow a process for reviewing the scientific literature base.**
  - Work with content expert to find out what SBR content is currently available from AEA or other sources that will address the student needs established in the professional development target.
  - For content that is readily available, review research to see if the setting and population served are similar to the local district context. Consider the training and supports provided to determine whether this effort can be replicated locally.
  - If no SBR content is available, review the Iowa Content Network and other sources to identify studies that describe practices that your district may want to investigate.
  - The content expert or provider assists the professional development leadership team in selecting strategies to consider by facilitating the process of sorting studies, reviewing the characteristics of the study and findings, prioritizing options, and collecting additional information. See examples of processes.

2(content).4. Examples of Processes to Follow to Select Content

See Content Network Web site for examples of processes: http://www.state.ia.us/educate/ecese/tqt/tc/prodev/main.html

- **Articulate how this content addresses the related Iowa Teaching Standards and criteria.** See pp for an example of how the Iowa Teaching Standards may be aligned with professional development content.

Part 3, Page 5 & 6, - Iowa Teaching Standards

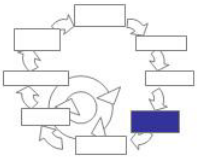
- **Once content is selected document the decisions and disseminate to appropriate target audiences**
  - List the content selected in the District Career Development Plan

3(stan).1. Worksheet for Drafting the District Career Development Plan

- Facilitate opportunities for faculty to process the link between student needs and the district/building goal(s), the PD target, and the content selected.
- Share information about the content selected with the school board and the community.

❑ **Review the Operating Principles for Selecting Content and complete the Operating Principles to identify district actions needed to ensure that this component of the Iowa Professional Development Model is fully supported.**

2(content).5. Operating Principles for Selecting Content



IV. Designing Process for Professional Development

Just as research-based strategies are essential for effective student learning in the classroom, so are research-based training and learning opportunities essential for the professional development of educators. In Designing the Process for Professional Development, the Professional Development *Leadership Team* must create professional development training, ongoing learning opportunities and activities that have been shown to result in changes in teacher behaviors in the classroom.

A. Overview of the Component

Next Few Pages:
A. Overview of the Component
B. Applying the Model's Operating Principles
C. Steps to Consider

This component will help you review some of the concepts you have become familiar with earlier in the manual and apply them as you design a plan for implementing professional development that impacts student achievement.

In its broadest sense, the process of designing professional development includes the "how" of the entire process:

- How data are collected and analyzed for goal setting and evaluation;
- How learning opportunities are designed;
- How collaboration is organized and embedded in the structure of a school.

The Iowa Professional Development Model meets the requirements of the District Career Development Plan and makes every attempt to incorporate the Iowa Professional Development Standards and the National Staff Development Council Standards for Staff Development.

When the objective of learning opportunities is to develop the skilled use of new material, the specific design of professional development must enable participants to practice the new learning in classrooms. When the material to be learned represents significant departures from existing practice, schools will need to allot time for training that includes theory, demonstrations, and early opportunities to practice (Joyce & Showers, 1981, 2002). Training/learning opportunities must be designed in ways that enable participants to develop skill with new curriculums, instructional strategies and assessments if implementation in the classroom is to be possible.

Before designing your training events, carefully study the table, *Outcomes of Training Design Reported in Effect Sizes,* on the facing page. Research on training outcomes has demonstrated that a combination of components is necessary when people are learning new skills and transforming them appropriately for classroom implementation. The outcomes of various training designs are reported in the table as "effect sizes." For an explanation of the table, see Part 4, T-2-17.

Outcomes of Training Design Reported in Effect Sizes (Joyce, B. and Showers, B., 1995)

Training Components	*Knowledge*	*Skill*	*Transfer of Training (Implementation)*
Theory/Information	.63	.35	0
Theory/Information/ Demonstrations	1.65	.26	0
Theory/Information/ Demonstrations/Practice	1.31	1.18	.39
Theory/Information/Demonstrations/ Practice Peer Coaching (Collaboration)	2.71	1.25	1.68

Definitions of Training Components

Information/Theory:	Discussions, readings, lectures designed to develop understanding of the rationale and research underlying a skill or strategy and the principles that govern its use.
Demonstrations:	Live or taped models of the skills and strategies being learned.
Practice:	Initial trials with new skills, first in the training setting through peer teaching or lesson development, following by classroom practice.
Feedback:	Refers to self-feedback used to correct and refine practice. The most effective self-feedback occurs when watching others teach or observing videotapes of one's own teaching.
Coaching:	The collaborative work among colleagues to plan, develop lessons, and use the skills and strategies that are the subject of training. Collaborative teams also study student data in order to make decisions about their implementation of new skills and strategies and provide support and encouragement to each other during the process of implementation.
Training Outcomes Knowledge	Awareness of educational and leadership theories and practices, new curriculums or academic content.
Skill:	Ability to perform discrete behaviors such as designing and delivering questions of various cognitive levels or the ability to perform clusters of skills in specific patterns.
Transfer and "Executive Control"	The consistent and appropriate use of new skills and strategies.

Notes

B. Applying the Model's Operating Principles – Designing Process for Professional Development

Actions Associated with Three Operating Principles

The actions listed below are examples of how three of the four Operating Principles may be applied to support the design process for professional development. After studying this component, you will want to develop your own operating principles:

Operating Principles
√ Focus on Curriculum, Instruction and Assessment
√ Participative Decision-making (School & District)
√ Leadership
√ Simultaneity

Participative Decision-making

A professional development leadership team has been formed to help guide the design work, planning, delivery, and maintenance of professional development. This team includes representatives of various teacher role groups and grade levels, central office staff, and building administrative staff.

- ❑ One of the purposes of this team is to find time within the school calendar and the school day to provide adequate opportunities for teachers to learn the theory, see multiple demonstrations, practice lessons together, plan together, etc.
- ❑ Decision-making may require administrators and faculty members to discontinue some prior practices or activities to make time for the professional development priority. The abandonment of past practices may require involvement of the staff and facilitated conversations about what is important for students and what needs to be discontinued.

Focus On Curriculum, Instruction And Assessment

- ❑ As the Professional Development Leadership Team works with planning the design of professional development, they focus on curriculum, instruction and assessment needs that have been identified through the analysis of student data and the goal setting process. When suggestions or pressures to redirect the focus to topics or activities that are not about the identified focus, the team brings the focus back to the selected instructional focus.

Leadership

- ❑ Both administrators and teachers on the Professional Development Leadership Team have leadership responsibilities for maintaining the integrity of the design in their buildings and in the district.
- ❑ Administrative leaders help to create and support the professional development leadership planning team. Building administrators are actively engaged team members in the ongoing design work.
- ❑ Leaders continuously model how to collect, analyze, and use data in planning meetings to design professional development.

- Leaders consider any barriers that may interfere with the delivery and implementation of the professional development being designed. The leadership team's role is to interpret and adjust policies and procedures so professional development may be put into place. For example, a district policy on the start and end of the school day may need to be modified to allow for early release time needed to provide time for professional development.
- Leaders look for ways to reduce disincentives that may inhibit professional development learning and implementation.

Common Pitfalls When Designing a Professional Development Plan

- Policies limit incentives for teachers to engage in professional development. For example, a district that has a policy that does not allow teachers to earn professional development credits for job-embedded learning during the workday may be limiting the potential for using renewal credit as an incentive for engaging in professional development.
- Sufficient time for staff development does not currently exist in the schedule and schools/districts attempt to squeeze six days of learning into the existing three days of staff development on the calendar.
- Staff development time is not protected and is used for other activities, or some teachers or groups of teachers are allowed not to participate.
- Teachers end up with insufficient time to learn new content and implementation suffers.

Notes

C. Steps to Consider – Designing Process for Professional Development

The following steps are offered as a suggested guide to help local districts design the process for professional development. The professional development planning process will not always follow a linear sequence, so the sequence below is not critical. The tools and resources suggested for each step are available in Part 4.

- **Develop your design for professional development, raising questions such as:**
  - How often will you have training opportunities?
  - How long will they last?
  - How will you communicate with trainers to ensure that the theory and demonstrations meet the needs of your teachers and that practice opportunities are provided during training sessions?

- **Read and discuss these selections listed at right:**
  - Joyce and Showers article and discussion guide
  - Alpha District Case Study (example of how a district designs a plan)

- **Complete the Design of Professional Development form**

In Part 4, Tools and Resources

2(proc).1. Joyce B & Showers B. (1995) *Student achievement through staff development.* White Plains, NY: Longman, pp. 110-113. Includes Discussion Guide

2(proc).2. Design of PD with discussion guide.

2(proc).3. Alpha District Case Study

- **Develop local Operating Principles for Designing the Process for Professional Development**

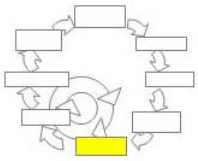
2(proc).4. Operating Principles for Designing PD Process

- **Review the DE Web site: Westlake's CSIP, DCDP Question #2, and the DCDP worksheet. Record the district's Design for**
- **Record the Professional Development design in the District Career Development Plan (DCDP)**
  - Update your locally developed action plan as appropriate.

DE Web site: http://www.state.ia.us/educate/ecese/tqt/tc/pd/pdcdpw.doc

3(stan).1. Worksheet for Drafting the District Career Development Plan

Notes



V. Ongoing Cycle

Professional development is a continuous process rather than a one-time event. To be able to transfer new learning into the classroom, teachers need multiple opportunities to see demonstrations, plan together, work out problems, rehearse new lessons, develop materials, engage in peer coaching, and observe each other. The collaborative routines necessary to support these actions must be planned for, supported and monitored.

What staff developers learn from the study of implementation informs decisions about future training, the need for support, and adjustments in the learning opportunities. If new content is to be learned and implemented in classrooms so that students benefit, then teachers need 1) ongoing training, 2) the colleagueship of peers as they plan and develop lessons, 3) planned opportunities to collect and analyze implementation ("effort"), and 4) student impact ("effect)" data for next steps.

Next Few Pages:
A. Training / Learning Opportunities
B. Collaboration & Implementation
C. Ongoing Data Collection (Formative Evaluation)
D. Steps to Consider (go to section VII)

The cycle of planning and delivering training, organizing an implementation plan, studying data from implementation, and making decisions about how to refine the training and adjust collaborative structures is repeated many times as the professional development design is implemented. The information gathered in studying implementation and as part of the formative evaluation informs the design of future learning opportunities as well as the on-going collaborative work of teachers. For example, formative evaluation data may suggest that students are growing in some areas and not in others. Data such as these enable small collaborative teams as well as the entire faculty to adjust their implementation of newly learned strategies. On the other hand, implementation data may reveal that certain strategies are seldom or never used, indicating a need for additional training in specific areas.

A. Training/Learning Opportunities

Training settings (learning opportunities) are the times set aside for the participants to come together and learn the professional development content they have selected to address student achievement needs. Research on training has demonstrated conclusively for almost two decades that new learning requires substantially more time than the typical one-shot workshop if the new learning is to be implemented in classrooms (Showers et al., 1987). Often, learning opportunities need to be interspersed with classroom practice so that questions that arise from early implementation efforts can be resolved.

The duration and depth of learning opportunities is dependent on the range of knowledge and skills already present in a given group, as well as the functioning of collaborative teams. Needless to say, when content is new to the participants or is complex and multi-dimensioned, greater time will need to be allocated to training sessions. The relative amounts of theory, demonstrations and opportunities for practice will vary from group to group, but the expectation that professional development content will be implemented is a given.

Applying the Model's Operating Principles – Training & Learning Opportunities

The actions listed below are examples of how three of the four Operating Principles may be applied to support training and learning opportunities. *After studying this component, you will want to develop your own operating principles:*

Operating Principles
√ Focus on Curriculum, Instruction and Assessment
√ Participative Decision-making (School & District)
√ Leadership
√ Simultaneity

Focus on Curriculum, Instruction and Assessment

- ❑ The training and learning opportunities provide teachers with detailed information about the theory of the instructional content being focused on. The theory provided in staff development needs to give teachers a thorough understanding of the rationale and the research base that supports the content. This theoretical base develops the deep understandings that enable teachers to make appropriate modifications to new content without destroying the new content.
- ❑ Teachers are provided with the training and information they need to be able to collect assessment data to show student progress in the area of instructional focus. If the assessment instruments being used are unfamiliar to the staff, training is provided to help teachers learn how to administer the assessment instrument and interpret the data.

Participative Decision-making

- ❑ All teachers responsible for instruction are consistently engaged in the staff development training and learning opportunities.
- ❑ The Professional Development Leadership Team works with the faculty and administration to address scheduling arrangements to make sure all teachers have time to engage in the training sessions.

Leadership

- ❑ Principals routinely attend training, observe in classrooms when the strategies are being implemented, and engage in dialogue with teachers about the professional development initiative. How the leader spends his or her time sends a clear message about what is valued.

Common Pitfalls

- ❑ Principal consistently does not attend common training sessions. Staff may form the perception that the administrator does not consider the professional development initiative to be a high priority.

B. Collaboration and Implementation

Research on the implementation of new learning reveals two consistent findings: much of the content of training is never implemented in classrooms, and successful implementations use the power of collaborative work as teachers negotiate changes in curriculum and instruction (Joyce & Showers, 1983).

Teachers working to implement changes in their classroom practice need the colleagueship of peers to solve the problems inherent in learning new behaviors and teaching them to their students. An implementation plan will need to provide a structure for teacher collaboration.

The implementation patterns also need to be monitored so that teachers and administrators can interpret student data (Are students responding as we predicted? Should we increase/decrease our use of certain strategies?) and provide feedback on their needs to trainers (see Guskey, 2000.)

The plan for collaboration includes time for teachers to meet on a regular basis and a structure for the tasks to be addressed during that time. A small (K-12) district in Iowa with three schools has stipulated that time for teacher collaboration will be provided as part of its staff development plan. The district has increased its staff development days for the year so that all teachers have time to learn new content. In addition, the district expectation is that all teachers will participate in small teams that meet weekly to plan and develop lessons and materials, problem solve difficulties encountered in their attempts to use their new strategies, and examine student data. To facilitate collaborative activity, the district has also instituted a series of early release days. At the elementary school, teachers will meet weekly as grade level teams of three. At the middle school, collaborative teams will meet weekly in interdisciplinary teams. At the high school, collaborative teams will meet biweekly (on early release days) to allow for both interdepartmental and content area meetings.

The Professional Development Leadership Team (comprised of teachers, administrators, AEA school improvement consultants, and staff development support personnel) has collected research on the content of their staff development and has some notion of what optimal patterns of use might be. They have also collected from K-12 teachers their estimates of optimal use of the new strategies, e.g., what is appropriate use at various grade levels and in various subjects. The leadership team has used this information to develop a set of implementation guidelines to guide the collaborative teams in their planning. Collaborative teams thus plan their use of the new strategies and document their use weekly using a structured form that they turn back to the leadership team following each meeting. The leadership team provides feedback to the entire staff on the frequency of implementation and what needs additional effort or attention.

A final note on teacher collaboration – it is important that the opportunities for teachers to collaborate while learning new content and while solving the problems necessary to get new content functioning in classrooms not be narrowly defined as "peer coaching." Peer coaching in the minds of many is an evaluative or supervisory set of behaviors involving observations and feedback. In fact, the collaborative work of teachers, when the objective is implementing new content for the purpose of increasing student learning, is much more about thinking, planning, designing lessons, generating instructional materials and studying student responses to these efforts. Teacher collaboration primarily requires *time* and clarity of purpose; rarely does it require complex and/or lengthy training to enable teachers to work together professionally and productively. (See Showers & Joyce, 1996.) The focused conversation process administrators are

learning in the Evaluator Approval program will provide powerful modeling of a more reflective approach to continuous improvement.

Applying the Model's Operating Principles – Training & Implementation

The actions listed below are examples of how the four Operating Principles may be applied to support collaboration and implementation strategies. *After studying this component, you will want to develop your own operating principles:*

Operating Principles
√ Focus on Curriculum, Instruction and Assessment
√ Participative Decision-making (School & District)
√ Leadership
√ Simultaneity

Focus on Curriculum, Instruction and Assessment

- ❑ Regularly scheduled sessions for the collaborative planning and development of lessons keep the focus on curriculum, instruction and assessment and greatly increase the probability of implementation.
- ❑ Collaborative sessions provide an opportunity to discuss implementation plans and modify them based on implementation fidelity (frequency and accuracy of use) and student impact as determined by the group.
- ❑ The collaborative team format enables teachers to collect and collate implementation data in a simple format for the entire team.

Participative Decision-making

- ❑ Staff routinely discusses the implementation data. Meeting time is provided for facilitated dialogue about the data and its implications.
- ❑ Collaborative structures are in place for teachers to learn together, practice strategies, rehearse lessons, try out new materials and solve problems.
- ❑ Staff is involved with planning and addressing logistical issues such as setting up teacher planning times, arranging for peer coaching partners, and determining times for classroom observations.
- ❑ If, in the light of formative evaluation data, the implementation plan needs to be modified, the collaborative teams make those decisions.

Simultaneity

- ❑ Productive collaborative teams deal primarily with planning and developing lessons, the study of student data and implementation data, and problem solving. They distinguish routine business (departmental/ grade level business) and relevant issues (observation schedules, fidelity discussions) and handle only the relevant issues during collaborative team time.
- ❑ Effective collaborative teams can spend 75% of their time of planning and developing lessons, etc. and still focus periodically on student data and the need, if any, for modifications in their implementation plan.

Leadership

- ❑ Building administrators are present during collaborative work times with teachers and join groups frequently for focused conversations related to implementation. The principal is visible to the faculty and staff sees that district leaders are engaged in collective learning.
- ❑ Principals play an active role in analyzing and discussing implementation data. They are aware of which teachers are following the implementation plan in good faith and which teachers are

not. When attention to the lack of implementation is needed, principals facilitate discussion with faculty members about how to adjust training and supports to increase implementation.

- The principal collects all implementation data in his/her building in order to determine needs for his/her own site as well as to discuss with district administrators the status of the implementation.

Common Pitfalls

- Implementation logs are collected but the staff never hears anything about the results. Teachers do not get the sense that district leaders and professional developers have used the data to support their future learning.
- Staff has not learned how to or practiced facilitating meetings and working productively with colleagues. As a result, they lose focus on the object of their implementation when they engage in facilitation training.
- Teachers are encouraged to work collaboratively together but nobody follows up to see that all teachers are engaged in planning together, rehearsing lessons, studying student data, etc. If some teachers are allowed to avoid collaborative study and remain isolated in their classrooms, the capacity of professional development to improve learning for all students is diminished.
- Collaborative teams suffer from lack of structure and purpose. They become general chat sessions rather than goal-directed effort, and eventually the time required for meetings is resented as a waste of valuable time.

C. Ongoing Data Collection

The ongoing data collection process in the Iowa Professional Development Model serves to maintain focus on both the purpose of the professional development initiative (student learning) and the means for accomplishing that purpose (implementation of research-based curriculums and instructional strategies).

As schools implement new curriculums and instructional strategies targeted at improving student learning in specific areas, teachers and administrators need tools for collecting information about student responses to the changes in the instructional program. The frequency with which these data are collected depends on the nature of the planned change. For example, changes in fluency are likely to occur more rapidly than the ability to address higher-order comprehension questions, and data collection points should be set accordingly.

Appropriate measures are essential for this activity. When a faculty is learning new strategies for teaching mathematical problem solving, they need a measure that examines students' problem-solving skill. If a faculty has targeted for improvement their students' writing abilities, they'll need a plan for periodically collecting and scoring writing samples. Likewise, a faculty concentrating on reading fluency will need a set of fluency probes and teachers implementing cooperative learning strategies to increase student engagement with tasks will need an appropriate observation measure. Principles to remember when selecting measures for ongoing data collection are:

1. Align the measure with the intended outcome;
2. Administer the measure at appropriate time intervals;

3. Consider random sampling of students to be tested so that all students are not tested at every measurement point; and
4. Ensure that results are quickly made available to faculty so they can use the information for planning and for adjustments in their implementation plan.

In addition to measures of the student skills and behaviors targeted for improvement, ongoing data collection includes a measure of implementation. How often are students experiencing new curricular materials and instructional strategies? Each faculty, with the help of their Leadership Team, needs to devise a method for monitoring their implementation of newly learned content. It is the combination of student learning data and implementation data that enable staffs to make informed decisions about next steps (e.g., are some strategies being over utilized? Have some strategies disappeared entirely? Do student data indicate where greater emphasis is needed?).

Applying the Model's Operating Principles – Ongoing Data Collection

The actions listed below are examples of how the four Operating Principles may be applied to support ongoing formative data collection. *After studying this component, you will want to develop your own operating principles:*

Operating Principles
√ Focus on Curriculum, Instruction and Assessment
√ Participative Decision-making (School & District)
√ Leadership
√ Simultaneity

Participative Decision-making

- ❑ A Professional Development Leadership Team helps to design a plan for collecting and organizing formative data. Teacher leaders on the team give input regarding what data to collect, how often, and what procedures to use for gathering the data.

Focus on Curriculum, Instruction And Assessment

- ❑ Formative data are collected periodically to assess student progress toward district and school goals for student achievement.
- ❑ Formative data provide information on how students are responding to the intervention and enable faculty to make any needed changes in their implementation patterns while there is still time to influence final test scores.
- ❑ The provider helps the leadership team to identify the moves the teacher will make in the classroom while implementing the professional development strategies. Implementation data will measure frequency (how often the teacher is using the strategy and the students are experiencing the strategy) and fidelity (how accurately are the teachers using the strategy.)

Leadership

- ❑ Leaders help with the collection and analysis of formative data, as needed.
- ❑ Principals ask questions about the data and its implications in focused conversations with collaborative teams, demonstrating to the faculty that he or she values formative data and establishing the importance of using those data to adjust implementation patterns.
- ❑ If the data indicate teachers are having difficulty in using a strategy, the next training session would include demonstrations of the full strategy. The leaders should inform the staff that their data were used and provided helpful information for designing the training.

Simultaneity

- In large group meetings, share results of formative data collecting, implications for changes in implementation patterns, and reaffirm where the majority of time and energy are to be allocated.

Common Pitfalls Concerning the Model's Operating Principles

- Data are collected but never used to refine training and adjust implementation patterns. Teachers feel like the extra work to gather and submit the data was a waste of their time.
- Data are used to make decisions but the faculty isn't aware that their data influenced the decisions. This may also result in teacher perception that data collection is a waste of time.
- Data collection tools are too complicated. Keep it simple.

C. Steps to Consider Throughout the Ongoing Cycle

The following steps are offered as a suggested guide to help local districts focus on the ongoing components of professional development. The professional development planning process will not always follow a linear sequence, so the sequence below is not critical. The tools and resources suggested for each step are available in Part 4.

- **Review "**The Design of Training and Peer Coaching" in Designing Process for PD section.
- **Provide theory and demonstrations during learning opportunities:**
  - Theory – lecture, reading, group dialogue, video, etc.
  - Demonstrations – presenter/trainer modeling during training; videos; teacher demonstrations during in-building training sessions; content expert demonstrating in classrooms; etc.
- **Review *Examples of Others' Implementation Plans and Logs* for ideas about how to design and monitor an implementation plan**
- **Develop your implementation plan**; e.g.,
  - Create the pattern of use expected for the new skills/ strategies/ curriculums, etc., you are learning in your professional development program.

In Part 4, Tools and Resources

2(proc).1. The Design of Training and Peer Coaching

2(cycle).1. Implementation Plan Worksheet

2(cycle).2. Examples of Others' Implementation Plans and Logs

- **Review examples of *How Others' Have Monitored Their Implementation* for ideas about how to design and monitor an implementation plan**

2(cycle).3. Examples of How Others' Have Monitored Their Implementation

- **Design implementation logs based on the Implementation Protocol.**
  - Establish a schedule for collection of implementation and student performance data as described in the Implementation Protocol.

2(cycle)4. How Will You Monitor Your Implementation - Worksheet (Implementation Protocol)

Steps continued on next page

- **Prepare the PD Leadership Team for designing collaborative structures by reading the passages listed below and facilitating discussion using the questions provided. (Share with full faculty, as appropriate)**
  - A Guide for Collaborative Structures
  - How Three Schools Designed Collaborative Teams
  - Augusta: How One District Studied Their Implementation
- **Determine structures for collaboration among teachers.**
  - Provide teachers time to: plan together, rehearse lessons; try new materials, observe each other, analyze student work, etc.
- **Design routines and structures for effective collaborative team meetings. See examples of team meetings and logs.**
- **Consider various options for finding time for training and collaboration based on the design developed above.**
  - Review list of suggested "Ideas of Finding Time" and discuss alternatives.
  - Brainstorm a list of ideas for reallocating time in the district for these priorities.
  - See example of a local district's calendar for professional development.
  - Schedule and announce training schedule for all staff.
- **Modify the training and collaboration design only if all time opportunities have been considered and not enough time is available.**
  - Make strategic decisions about which design components to modify.

2(cycle).5. A Guide for Collaborative Structures

2(cycle).6. How Three Schools Designed Collaborative Teams

2(cycle).7. Examples: Collaborative Team Minutes and Logs

2(cycle).8. Augusta: How One District Studied Its Implementation

2(cycle).9. Finding Time for Training and Collaboration

2(cycle).10. Examples of School PD Calendars

- **Review examples of Formative Plans**
- **Create your ongoing data collection plan (Formative Data Evaluation). Complete the Formative Data Plan Worksheet**
- **After collecting and organizing formative data, combine your own implementation and formative data**
  - See examples of how to create an implementation score (Coastal Unified Example)
  - Review examples of questions to ask of your combined implementation and formative data
- **PD leaders discuss findings and determine whether changes are needed in professional development or in curriculum and instruction. Expand discussion to the full faculty and make adjustments as needed.**

2(cycle).11. Examples of One Project's Plan for Collecting Formative Data

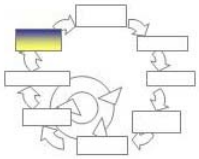
2(cycle).12. Formative Data Plan Worksheet

2(cycle).13. Combining Your Own Implementation and Formative Data

- **Review the Operating Principles for the Ongoing Cycle** (Training and Learning Opportunities, Collaboration/ Implementation, and Ongoing Data Collection).
- **Complete the Operating Principles Worksheet.**

2(cycle).14. Operating Principles for the Ongoing Cycle

Notes



VI. Program Evaluation (Summative)

The effectiveness of professional development is judged by student learning outcomes. Determination of the efficacy of a professional development program is based on two factors: whether or not the content was implemented as planned and whether or not students acquired the desired knowledge/skills/behaviors. This judgment is based on both formative and summative evaluation data. The quality of the evaluation is contingent upon having clearly stated goals that target improvement in student performance. A professional development program is successful when it achieves its student learning goals.

A. Overview of the Component

Next Few Pages:
A. Overview of Component
B. Applying the Model's Operating Principles
C. Steps to Consider

While ongoing data collection (formative evaluation) entails frequent measurement of targeted outcomes and guides training decisions and program adjustments, program (summative) evaluation address the question "Does this intervention work?" Measures of program effectiveness generally occur at greater intervals—perhaps yearly—or on whatever schedule the district/school has established for taking stock of its progress toward student achievement goals. Regardless of how the program is evaluated, these data are used in the school's decision-making as it plans next steps.

B. Applying the Model's Operating Principles

The actions listed below are examples of how the four Operating Principles may be applied to support program evaluation. *After studying this component, you will want to develop your own operating principles:*

Operating Principles
√ Focus on Curriculum, Instruction and Assessment
√ Participative Decision-making (School & District)
√ Leadership
√ Simultaneity

Focus on Curriculum, Instruction and Assessment

- ❑ The measurement of the effectiveness of the professional development program is focused on student results in the goal area. The outcomes of the initiative are judged on student learning results.
- ❑ Assessment instruments used to set goals are used to measure outcomes.
- ❑ Instruments used may include standardized achievement tests as well as student performance assessments in the area being addressed in professional development.

Participative Decision-making

- ❑ All teachers responsible for instruction should know the intended outcomes of the professional development from the onset of the initiative as well as how the professional development will be evaluated.

- The PD leadership team works with the faculty and administration to inform the entire faculty, board, and other interested parties about what was learned through the summative evaluation.

Leadership

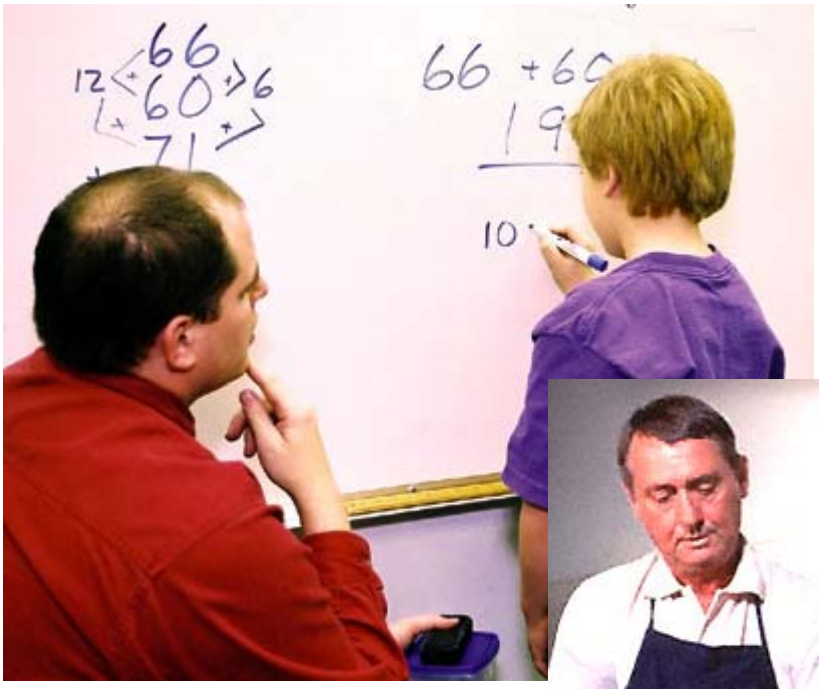
- Leaders use summative data to make decisions about next steps and future professional development actions.

Simultaneity

- Communication with stakeholders continues throughout the cycle.

Common Pitfalls

- Decisions are made to discontinue a professional development initiative without considering whether or not professional development was fully implemented.
- Evaluators look at teacher perceptions of student benefit rather than actual student performance as measured by a pre and post assessment.
- Evaluators judge the effectiveness of professional development based on teacher satisfaction with training events and do not include actual measures of implementation.



C. Steps to Consider – Program Evaluation (Summative)

The following steps are offered as a suggested guide to help local districts evaluate their planning of professional development. The professional development planning process will not always follow a linear sequence, so the sequence below is not critical. The Tools and Resources suggested for each step are available in the Appendix.

- **Define and design the program evaluation plan for the evaluation.**
  - Review the Technical Assistance for the District Career Development Program Evaluation Plan as part of the CSIP (See Constant Conversation Question 3 and 4 and CSIP Goal Oriented Approach to Program Evaluation)
  - Review Goal-Oriented Summative Program Evaluation questions.
  - Consider the Program Evaluation Standards as you plan. (The Program Evaluation Standards are considered the "gold standard for the process of program evaluation.)
  - Record plan for program evaluation in the District Career Development Plan.

- **Organize, and display formative & summative data**

  Show results throughout the implementation of the program. Include:
  - Teacher implementation data;
  - Student performance data.

- **Analyze findings**
  - Following district protocol, engage staff in interpreting results from data collected.
  - Utilize staff input to form decision statement (include justification).

- **Summarize findings**
  - Answer the questions established in the Data Collection and Goal Setting stages. (Was progress made on indicators?)

- **Facilitate discussion by the PD leadership team to determine the status of the initiative:**
  - Continue the initiative as is;
  - Continue the initiative with changes;
  - Consider the initiative complete and begin decision-making process to select another professional development target.

In Part 4, Tools and Resources

CSIP Goal Oriented Approach – Programs, Services, Clear Expectations (Westlakes Example)
http://www.state.ia.us/educate/ecese/asis/csi/documents.html

Part 1, p. 6, Constant Conversation Questions #3 and #4

2(eval).1. Goal Oriented Summative Program - Evaluation Questions

2(eval).2. Program Evaluation Standards

3(stan).1. District Career Development Plan Worksheet

2(data).1c. QIC - Decide Protocol

2(eval).3. Program Evaluation - Reporting Our Data

- **Communicate the decision to all stakeholders**
  - Record summary on the APR and distribute results through the APR, and other user-friendly opportunities such as school board meetings, SIAC meetings, State of the District presentations, web site, letters to parents, news releases, etc.
- **Add data to Constant Conversation Question #1 in the next CSIP cycle**

- **Review the Operating Principles for Program Evaluation and design actions needed to support program evaluation.**

2(eval).4. Operating Principles for Program Evaluation

Notes