



Part 4

Tools & Resources



I. Tools List

Part 1, Introduction to Training		IV. Designing Process for PD	
1(intro).1.	Ways to Help Your Community Understand Staff Development	2(proc).1.	Joyce B & Showers B. (1995) <i>Student Achievement Through Staff Development</i> . White Plains, NY: Longman, pp. 110-113. Includes Discussion Guide
1(intro).2.	Example of a Public Declaration	2(proc).2.	Design of Professional Development
1(intro).3.	School Improvement Staff Development: Evaluating Current Plans	2(proc).3.	Alpha District Case Study
Part 2, Tour of the Model Components		2(proc).4.	Operating Principles for Designing PD Process
I. Collecting & Analyzing Data		V. Components of the Ongoing Cycle	
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 Student	2(cycle).1.	Implementation Plan Worksheets
2(data).2.	Where to Find Answers to our Questions	2(cycle).2.	Examples of Others' Implementation Plans & Logs
2(data).3.	How to Find Answers for the Sample Questions	2(cycle).3.	Examples of How Others Have Monitored Their Implementation
2(data).4.	Maine Public Schools: Comprehensive Student Assessment System	2(cycle).4.	How Will You Monitor Your Implementation - Worksheet (Implementation Protocol)
2(data).5.	Organize and Analyze Data	2(cycle).5.	A Guide for Collaborative Structures
2(data).6.	MEA Item Analysis Summary	2(cycle).6.	How Three Schools Designed Collaborative Teams
2(data).7.	Additional Measures	2(cycle).7.	Examples: Collaborative Team Minutes and Logs
2(data).8.	Analyze & Report Data – Response Sheet	2(cycle).8.	Pine Valley : How One District Studied Its Implementation
2(data).9.	Operating Principles for Collecting/ Analyzing Data	2(cycle).9.	Finding Time for Training and Collaboration
II. Goal Setting		2(cycle).10.	Examples of School PD Calendars
2(goal).1.	Trajectories - State of Maine & District	2(cycle).11.	Examples of One Project's Plan for Collecting Formative Data
2(goal).2.	District-Level Professional Development Targets, with Worksheets	2(cycle).12.	Formative Data Plan Worksheet
2(goal).3.	Operating Principles for Collecting/ Analyzing Data	2(cycle).13.	Combining Your Own Implementation and Formative Data
III. Selecting Content		2(cycle).14.	Operating Principles for the Ongoing Cycle
2(content).1.	Slavin's <i>A Reader's Guide to Scientifically Based Research</i> ; Discussion Guide	VI. Program Evaluation (Summative)	
2(content).2.	Scientifically Based Research Activity, with Sample of a Completed Documentation Form and a Discussion Guide	2(eval).1.	Goal Oriented Summative Program - Evaluation Questions
2(content).3.	Examples of Processes to Follow to Select Content b. Examples of Processes -Selecting Content Example 1: Winfield-Mount Union & AEA16 Example 2: Mid-Continent School District	2(eval).2.	Program Evaluation Standards
2(content).4.	Operating Principles for Selecting Content	2(eval).3.	Guskey's 5 Levels of Evaluation
		2(eval).4.	Program Evaluation - Reporting Our Data
		2(eval).5.	Operating Principles for Program Evaluation
		Part 3, Maine Standards for PD & Teaching	
		3(stan).1.	Drafting the District Professional Development Plan, with Constant Conversation Q's
		3(stan).2.	Four Samples of Individual Professional Development Planning Tools
		General	
		gen-1.	Common Assessment Terminology
		gen-2.	Acronyms and Abbreviations
		gen-3.	Four Operating Principles

Tool 2(proc).1. Student Achievement Through Staff Development (p. 1 of 4)

Student Achievement Through Staff Development The Design of Training and Peer Coaching

From Joyce, B. & Showers, B. *Student Achievement Through Staff Development – Fundamentals of School Renewal*. Read the selection below; then as a group, use the Discussion Guide following the selection to process what you have read.

Training Components

Several elements are at our disposal. The first component is an exploration of theory through discussions, readings, lectures, etc.; this is necessary for an understanding of the rationale behind a skill or strategy and the principles that govern its use. Study of theory facilitates skill acquisition by increasing one's discrimination of the demonstrations, by providing a mental image to guide practice and clarify feedback, and by promoting the attainment of executive control.

The demonstration of modeling of skill is the second component; it greatly facilitates learning. Skills can be demonstrated in settings that simulate the workplace, either mediated through film or videotape, or conducted live in the training setting. Demonstrations can be mixed with explanation; the theory and modeling components need not be conducted separately. In fact, they have reciprocal effects. Mastery of the rationale of the skill facilitates discrimination, and modeling facilitates the understanding of underlying theories by illustrating them in action.

The third component is the practice of skill under simulated conditions. The closer the training setting approximates the workplace the more transfer is facilitated. Considerable amounts of skill can be developed, however, in settings far removed from and different from the workplace. "Peer teaching" (practice with other teachers) even has advantages. It provides experience as a "student", enables trainees to profit from one another's ideas and skill, and clarifies mistakes. Peer teaching and practice with small groups of children are safer settings for exploration than a full classroom. How much practice is needed depends, of course, on the complexity of the skill. To bring a model of teaching of medium complexity under control requires 20-25 trials in the classroom over a period of about eight or ten weeks. The more simple skills, or those more similar to previously developed ones, will require less practice to develop and consolidate than those that are more complex or different from the teachers' current repertoire.

Peer coaching, the fourth component, is the collaborative work of teachers to solve the problems/questions that arise during implementation; it begins in training settings and continues in the workplace following initial training. Peer coaching provides both support for the community of teachers attempting to master new skills and the time for planning and lesson development so essential to changes in curriculum and instruction.

Research on Training

Training, of course, does not exist outside a context. As described in earlier chapters, a process must be in place to decide what will be the substance of the training, who will provide training, when and where the training will be held and for what duration. The norms of the workplace impinge on the receptivity of participants to various configurations of training experiences, as do labor-relations histories and interpersonal relationships among participants. We have less data on the impact of many of these environmental and governance variables on the effectiveness of training than we have on actual training components. However, we recommend the participatory governance modes described in chapters 2, 3 and 6 to increase understanding of both the content and why it was selected for each component.

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Also, as we discussed in chapter 3, we believe that cohesiveness and strong leadership in the school are critical to the success of training. The best trainers, working with the most relevant and powerful content, will find little success or receptivity in poor organizational climates. However, good climates and high motivation will not substitute for well-designed training. Fortunately, we can assert that research and experience have reached the point where we can state that, for specific training outcomes, certain training components or combinations of components proved optimal conditions for learning. Essentially, nearly all teachers can master a wide range of teaching skills and strategies provided that the training is well designed and the climate of the school facilitates and promotes cooperative study and practice.

Hence, designers of training must answer several questions before planning any training experience. For whom is the training intended and what is expected to result from the training? Is follow-up to training built into schools as a permanent structure or must follow up be planned and delivered as part of the training package? Does the content of the training represent new learning for participants or is it an attempt to refine existing knowledge and skills?

Also, designers need to decide which training components will be used and how they will be combined. These components include the presentation of information or theory about the topic of the training, live and mediated demonstration or modeling of new skills and teaching models, and opportunities for practice of new skills and strategies in the training setting as well as in the workplace. Peer coaching of new skills and strategies, which largely occurs in the workplace, ideally is taught and practiced in the training setting as well.

Research on training provides some interesting insights into the efficacy of various training components and particularly, combinations of them (Bennett, 1987; Showers, Joyce, & Bennett, 1987) (see Table 7.1). Information or theory-only treatments increase knowledge by an effect size of about .50 between them (one-half of a standard deviation on a normal curve), whereas theory combined with demonstrations, practice, and feedback results in an effect size of 1.31 for knowledge, compared with about .63 if presentations alone are employed (Bennett, 1987).

Effect Sizes for Training Outcomes by Training Components			
<i>Training Outcomes</i>			
Training Components & Combinations	Knowledge	Skill	Transfer of Training
Information	.63	.35	.00
Theory	.15	.50	.00
Demonstration	1.65	.26	.00
Theory Demonstration	.66	.86	.00
Theory Practice	1.15		.00
Theory Demonstration Practice		.72	.00
Theory Demonstration Practice Feedback	1.31	1.18	.39
Theory Demonstration Practice Feedback Coaching	2.71	1.25	1.68

When skill is the desired outcome of training, the advantage of the combinations is equally clear. Theory or demonstration alone results in effect sizes for skill of around .5 and .26 respectively for refining existing skills, lower for new skills. Theory, demonstration, and practice combined result in an effect size of approximately .7 for skill, whereas theory, demonstration, practice, and feedback combined result in an effect size of 1.18. When in-class coaching is added to the theory, demonstration, practice, and feedback, skill continues to rise.

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Strangely, the question of transfer of training has been asked much less frequently in research on training than has the question regarding skill acquisition. Consequently, many fewer studies of training have measured transfer effects than have measured skill acquisition. Perhaps the assumption has been that skill, once developed, would automatically be used in classroom instruction. Recent analyses of the literature on training confirm what many trainers, teacher educators, and supervisors have long suspected—transfer of learned knowledge and skill is by no means a sure bet. In studies that have asked transfer questions (e.g., did participants use new skills in the classroom, did they use them appropriately, did they integrate new skills with existing repertoire, and was there long-term retention of the products of training?), several findings emerge. First, the gradual addition of training elements does not appear to impact transfer noticeably (effect size of .00 for information or theory; theory plus demonstration; theory, demonstration and feedback; effect size of .39 for theory, demonstration, practice, and feedback). However a large and dramatic increase in transfer of training – effect size 1.68 – occurs when in-class coaching is added to an initial training experience comprised of theory explanation, demonstrations, and practice with feedback.

We have concluded from these data that teachers can acquire new knowledge and skill and use it in their instructional practice when provided with adequate opportunities to learn. We have hypothesized, further, that fully elaborated training systems develop a “learning to learn” aptitude and that, in fact, individuals learn more efficiently over the long-term by developing the metacognitions that enable self-teaching in settings where essential training elements are missing.

Implications for Staff Development Practice

We have drawn several conclusions from the research on training that have implications for staff development programs serving individuals, schools, and systems:

First, regardless of who initiates a training program, participants must have sufficient opportunity to develop skill that they can eventually practice in classroom settings.

Second, if the content of training is new to trainers, training will have to be more extensive than for substance that is relatively familiar.

Third, if transfer of training is the objective, training must include the facilitation and structure for collaborative relationships that enable teachers to solve the implementation problems.

Tool 2(proc).1. Student Achievement Through Staff Development (p. 4 of 4)**Discussion Guide: The Training Design**

As you review the research table below, what is a key learning for each of you? Discuss the questions following the table as a group and make a list of ideas you want to remember to include in your Professional Development Process design

Outcomes of Training Design Reported in Effect Sizes

<i>Training Components</i>	<i>Knowledge</i>	<i>Skill</i>	<i>Transfer of Training (Implementation)</i>
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

Joyce, B. and Showers, B. (1995). *Student Achievement Through Staff Development*, 2nd ed. White Plains, NY: Longman Publishers.

1. Theory — in the form of lectures, readings, discussions, etc. — is often the least preferred part of training sessions. Would it be more efficient to dispense with this part of training?
2. Discuss three ways to get more demonstrations into training settings when you are learning new instructional strategies.
3. What, besides classroom trials, would constitute “practice” with new knowledge and skills in the area of curriculum, instruction and assessment?
4. In many settings throughout the country, peer coaching is thought to mean observation and feedback, or, in other words, the classic evaluation format. Showers and Joyce, however, designed the collaborative activity in an effort to increase the implementation of innovations in educational settings and thus focused the collaborative activity on the planning and development of lessons, the study of student work, and the building of companionship, which is so important when solving the problems of implementation. Discuss the pros and cons of these two approaches to teacher collaboration, when the object of the activity is the implementation of new learning in the classroom.
5. If your faculty had 20 teachers, and three of them were already knowledgeable about three instructional strategies the faculty had decided to add to its reading program (e.g., *Think Alouds* for comprehension, *Numbered Heads Together* for vocabulary meaning, and *Pair/Share* for discussion of independent reading), how would you design the collective training sessions for your faculty.

List on the back of this sheet any key ideas you want to remember from this discussion for your process design.

Tool 2(proc).2. Design of Professional Development (one page)

Design of Professional Development

The Professional Development Team determines how they will provide theory and give teachers opportunities to see multiple demonstrations of the strategy they are learning. Their planning includes ways to build in opportunities to practice the strategy as well as the organization and structures for setting up collaborative teams in the workplace. The planning form below is used to record the professional development design. This planning form may be used at the district and building level.

District: _____

School: _____

Content Selected:

Theory

Demonstrations

Opportunities for Practice

Organization and Structure for Collaborative Teams in Workplace

Tool 2(proc).3. Alpha District Case Study (p. 1 of 3)

Alpha School District Case Study – Read and Discuss Activity

Read the case study below. Highlight or make notes where you see examples of the Operating Principles for Designing Professional Development.

When you finish your reading, discuss the items on the Structured Response Discussion sheet, referring to the Operating Principles as appropriate.

When the object of professional development is accomplishing specific student achievement goals, designing professional development means more than planning a workshop. The content selected for professional development must align precisely with student needs for growth, learning opportunities must provide sufficient knowledge and skill to enable classroom implementation of new learning, the workplace must be organized to support teacher collaboration as they solve the issues presented by implementing new learning, and appropriate interim student measures must be administered so that student learning can guide teacher collaboration and implementation efforts. The planning and energy required by this broader vision of the staff development process, however, cannot short-circuit the careful planning of learning opportunities. In the following example, we illustrate the components of the training model for one type of professional development content.

Data and Objectives

After careful study and analysis of its student achievement patterns, alpha district has concluded that while the majority of its students appear to meet minimum standards for proficiency in reading and math, many are achieving at a very average level. Item analysis of standardized test data indicate the majority of students miss items requiring higher order thinking and reasoning skills. Furthermore, this phenomenon worsens at the middle and high school levels, when student maturity and the demands of the curriculum are at their highest level. The leadership team of the alpha district decided to consciously address student needs for complex thinking and reasoning skills through their staff development program, and to measure student progress by focusing on the subset of test items requiring higher order thinking skills in reading and math.

Selecting Content and Providers

Careful analysis of research on strategies and programs with a history of increasing higher-order thinking skills resulted in the selection of inductive teaching strategies and their corollary cooperative learning strategies. While Alpha District's AEA agreed to serve as the "approved provider" to support the entire professional development cycle, and an expert in inductive and cooperative strategies was hired to provide training in the staff development content.

Designing Learning Opportunities

The Alpha District's leadership team worked with the expert trainer to design a series of learning opportunities for district teachers. Specifically, they examined the *theory* that would need to be understood, the types of *demonstrations* that would be necessary, and the types of *practice* that could be provided during workshops.

Tool 2(proc).3. Alpha District Case Study (p. 2 of 3)

Theory

The Alpha District leadership team wanted to accomplish two things with this component of the training. While they had thoroughly investigated the research underlying inductive and cooperative strategies, the majority of district teachers had seen only an overview. They asked the trainer to begin the theory component with a review of the literature on the effects of the inductive and cooperative strategies that would be learned in the workshop. Their belief was that a thorough understanding of this research base would help teachers set high expectations for student intellectual behavior and justify the time and energy required to learn and implement them. They also requested that the trainer include in her presentation the theory, or explanation, for why inductive thinking and cooperative strategies work; e.g., information about how the brain processes information as well as the social nature of learning.

Demonstrations

While the leadership team acknowledged that measurement of student learning would focus on reading and math, they expected teachers of all subjects to work toward the collective objective of increasing student thinking and reasoning skills. They therefore requested that demonstration lessons of inductive thinking and cooperative learning include examples in language arts, math, science, social studies, and foreign language. The leadership team realized that demonstrations in every subject at every grade level would not be possible, given the time constraints of workshops, but they wanted enough variety in the demonstrations to enable teachers to see multiple possibilities for application.

Practice

Given the importance of early practice when learning new skills, the leadership team then discussed with the expert trainer ways in which practice could be worked into the workshop settings. After brainstorming and discussing multiple options, they settled on the following plan.

First, teams of four teachers would be provided four inductive thinking lessons. Each individual would have time to study the lesson they were to teach, and then each teacher would practice teaching an inductive lesson to rest of his/her group.

Second, small groups of “job-alike” teachers would design lessons using their own curricular materials and then share the products of their initial development. In this manner, everyone would have an opportunity to test their own understanding of the new strategies and would leave the workshop prepared to practice immediately in their classrooms.

Third, collaborative teams would be formed in the workshop so that initial practice in lesson development could be supported by workshop facilitators. By providing a structure for collaborative work and supporting it in the workshop, teacher teams would be prepared to continue this work in their school settings.

Fourth, expectations for initial classroom practice would be stated and commitments to practice solicited.

Finally, follow-up training sessions would be scheduled (more frequently for the first few months of implementation) in order to support early practice with the newly learned strategies.

Collaboration, Implementation, and Evaluation

To implement new learning requires collegial support in the workplace and the study of implementation patterns in conjunction with interim measures of student learning. It is critical that training and learning opportunities provide teachers the knowledge and skills necessary to engage in authentic implementation efforts.

Tool 2(proc).3. Alpha District Case Study (p. 3 of 3)

Structured Response Discussion Guide

The study of the Alpha District is organized based on the components of the Maine Professional Development Model cycle. Discuss where you see evidence of the Model's Operating Principles in the Alpha Case Study.

Participative Decision-Making

Focus On Research to Drive Curriculum, Instruction, And Assessment

Organizational Alignment

Focus on Results

What implications does this discussion have for your local design decisions?

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

Attention to Quality Standards For Designing Process for Professional Development

List actions taken to design a process for professional development that provides teachers adequate time to learn new knowledge and skills. Identify actions needed to ensure that this component of the Maine Professional Development Model is fully supported. Consider possible pitfalls and strategies to avoid them.

Focus on Research to Drive Curriculum, Instruction and Assessment:

Actions Taken:

Actions Needed:

Participative Decision Making:

Actions Taken:

Actions Needed:

Organizational Alignment:

Actions Taken:

Actions Needed:

Focus on Results:

Actions Taken:

Actions Needed:

Notes