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ABSTRACT

This publication examines the literature on promising practices in professional development, focusing on the role of effective inservice professional development in successful elementary school reform, promising practices, and results of a survey of educators from the northwest United States. After an introduction, Section 1 discusses "Learning in Our Nation's Schools: Simple-Minded or Muddle-Headed?" Section 2 focuses on "Teaching for Understanding." Section 3 examines "Barriers to Effective Professional Development and School Reform." Section 4 discusses "Inquiry-Based Professional Development." Section 5 focuses on "Collaboration with Children, Families, and Colleagues." Section 6 looks at "Cherry Valley Elementary School, Polson, Montana." The report concludes that effective professional development: is moving away from the model in which an expert transmits knowledge to teachers; is grounded in the questions and concerns of those who work closely with children; views teachers as intellectuals, leaders, peer coaches, and researchers; and allows ample opportunities for teachers and principals to engage in reflective study of teaching practices, experimentation, collaborative problem solving, and peer mentoring in a supportive climate. Two appendixes include the District Staff Development Activities Survey and data on how often teachers are included in several district-provided staff development activities. (Contains 107 references.) (SM)

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ACTUAL SCHOOLS POSSIBLE PRACTICES

NEW DIRECTIONS IN PROFESSIONAL DEVELOPMENT

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ACTUAL SCHOOLS POSSIBLE PRACTICES

NEW DIRECTIONS IN PROFESSIONAL DEVELOPMENT

March 1999

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Contents

Introduction

It is teachers, who, in the end, will change the world of the classroom by understanding it (Stenhouse, 1988).

Ever since the authors of *A Nation at Risk* (National Commission on Excellence in Education, 1983) warned that a rising tide of mediocrity in our educational system was compromising our nation's ability to be competitive in the world economy, education reform or restructuring has been proposed, not only to improve schooling, but as the solution to our nation's ills. Yet there is considerable agreement that these sometimes conflicting waves of reform have produced disappointing results (Clark & Astuto, 1994; Darling-Hammond & McLaughlin, 1995). And although it is commonsensical that good schools need excellent teachers, teachers have often been excluded from the process, both of planning reforms and the professional development opportunities necessary to implement them (Lieberman, 1995).

As early as 1957, the National Society for the Study of Education recommended that schools and entire staffs become collaborators in providing inservice education. However, Sykes (1996) points out that more than 40 years later, "teachers are frequently the targets of reform, but they exert relatively little control over professional development" (p. 465). In one California study, only 10 percent of the professional development experiences were shaped by teachers. The role of teachers in 90 percent of the efforts was to sign up (Kneidek, 1994).

In the 1988 Annual Report of the Carnegie Endowment for the Advancement of Teaching (Boyer, 1988), Boyer reported that morale within the teaching profession had substantially declined since the publication of *A Nation at Risk*; that in fact, teachers were "demoralized and largely unimpressed" by the reform actions taken in the previous five years. Since that time, the tension between old and new waves of reform and the "policy collisions" between them (Darling-Hammond, 1990) have, in Darling-Hammond's words, sometimes "created an Alice in Wonderland world in which people ultimately begin to nod blithely at the inevitability of incompatible events" (p. 344).

In such a climate of confusion and contradiction, and with little input into the reform process, it is not surprising that some teachers have seriously considered closing the classroom door and waiting for it all to go away.

According to Michael Fullan, Dean of Education at the University of Toronto, "the greatest problem faced by school districts and schools is not resistance to motivation, but the fragmentation, overload, and incoherence resulting from the uncritical acceptance of too many different innovations" (1991, p. 197). In such a climate of confusion and contradiction, and with little input into the reform process, it is not surprising that some teachers have seriously considered closing the classroom door and waiting for it all to go away. The absence of a revamped professional development system "is the Achilles heel of the best-designed systemic reform efforts," says Stanford University Education Professor Michael Kirst (cited in O'Neil, 1993).

The last few years, however, have brought increasing recognition that teachers and teachers' knowledge gained from and embedded in their everyday work with children should be at the center of reform efforts and professional development activities (Darling-Hammond, 1994; Lieberman, 1995). Elliot Eisner, Professor of Education and Art at Stanford University, notes:

> One of the most important developments [of the last 10 years] is the enormously increased appreciation for practical knowledge. It is not that theory is not useful, but only that theory by its nature deals with the general and the more or less uniform. It will always be limited in its relevance to the conduct of action in the particular circumstances in which action is inevitably conducted (cited in Bracey, 1994, p. 568).

The increased appreciation for practical knowledge enriched by critical reflection has produced a rich body of literature that supports teachers' need to become actively involved in their own learning process. Opportunities to engage in reflective study of teaching practices through reading, dialogue, experimentation, collaborative problem solving, observation, and peer mentoring are considered critical to effective professional development. These understandings are reflected in the U.S. Department of Education's set of principles of professional development, published by the Office of Educational Research and Improvement (1997). The principles promote inclusive learning communities of everyone who impacts students and their learning.

Because of the critical role of education in shaping the minds and hearts of our nation's children, a central question becomes, "What kind of adults do we want our children to become?" (Paul, 1991).

In this paper, the growing body of literature on the role of effective inservice professional development in successful elementary school reform is discussed, promising practices are highlighted, and results of a survey of Northwest educators are presented.

At the heart of the dialogue regarding school reform and professional development are questions regarding the nature of learning, the purposes of schooling, and how best to translate these understandings into effective practice. Because of the critical role of education in shaping the minds and hearts of our nation's children, a central question becomes, "What kind of adults do we want our children to become?" (Paul, 1991). In the next section, these questions are explored.

Principles of High-Quality Professional Development from the U.S. Department of Education

High quality professional development:

- Focuses on teachers as central to student learning, yet includes all other members of the school community
- Focuses on individual, collegial, and organizational improvement
- Respects and nurtures the intellectual and leadership capacity of teachers, principals, and others in the school community
- Reflects best available research and practice in teaching, learning, and leadership
- Enables teachers to develop further experience in subject content, teaching strategies, uses of technologies, and other essential elements in teaching to high standards
- Promotes continuous inquiry and improvement embedded in the daily life of schools
- Is planned collaboratively by those who will participate in and facilitate that development
- Requires substantial time and other resources
- Is driven by a coherent long-term plan
- Is evaluated ultimately on its impact on teacher effectiveness and student learning; and this assessment guides subsequent professional development efforts

Learning In Our Nation's Schools: Simple-Minded or Muddle-Headed?

Legend has it that during a heated philosophical argument, philosopher and mathematician Bertrand Russell announced to his protagonist and teacher, Alfred North Whitehead, "This issue cannot be resolved. The problem is that I am simple-minded and you are muddle-headed." In many ways, the dialogue over school reform and the role of teachers in such reform has reflected this dilemma.

Our educational system has drawn heavily on theories of behaviorism and the scientific management ideas of Frederick Taylor. Corollaries of these theories—objectivity, rationality, efficiency, and accountability—have exerted a strong influence on our curriculum, assessment, and classroom climate. In the "transmission" or behaviorist approach to education, the teacher's job is the direct instruction of information and rules. Educators Renate and Geoffrey Caine (1997) explain:

> The core commodity of education is the information that is to provide a foundation for success in life .... In a sense, this information is detached from the minds of people and has an independent existence. Facts and skills are conceived of as owned by the system and warehoused in schools, where they are packaged and then delivered to students (p. 43).

Grounded in the theories of Watson and Skinner, educators using a behaviorist approach focus on observable, measurable behaviors, which are produced by the manipulation of antecedents and consequences. Implicit in this view is the image of the learner as passive, a vessel to be filled with knowledge by the teacher; learning takes place through the formation of stimlus-response bonds, which are strengthened through repetition and reinforcement. Based on these assumptions, skills are regarded as the sum of their component parts, often taught directly and practiced in isolation from their use before being brought back to the whole (Crawford, 1995). Teaching is highly structured, sequentially organized, and teacher-directed.

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In the best tradition of scientific management, the classroom has been frequently portrayed as a factory and children regarded as the raw material of products that are to be produced as efficiently and systematically as possible.

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In the best tradition of scientific management, the classroom has been frequently portrayed as a factory and children regarded as the raw material of products that are to be produced as efficiently and systematically as possible. In keeping with a factory model, our educational system frequently reflects the assumption of hierarchical intelligence (Darling-Hammond, 1994) in which, as Meier (1995) notes, "the top does the critical intellectual work and the bottom is left with doing the daily 'nuts and bolts' or 'how-to'" (p. 369). Teachers are often viewed as technicians, purveyors of a "canned curriculum" provided by a very powerful knowledge industry (Goodman, 1994). This view is reflected in the following argument offered by University of Arizona Professor Stanley Pogrow:

> The equivalent of expecting teachers to develop the interventions they are going to apply would be asking an actor to perform Shakespeare —but to write the play first. The role of actors is to make the playwright's lines come alive, not to write those lines. The primary role of teachers is to teach, not to develop their own interventions .... Professional behavior is judged by the quality with which practitioners implement established procedures, not by whether they can invent them (1996, p. 658).

Interacting with and complementary to the scientific management approach is a psychometric philosophy of education, which posits that the learner possesses measurable abilities; individual differences in performance are regarded as reflecting differences in *amount* of ability (Elkind, 1991). In a psycho-

metric approach, education is seen as imparting quantifiable knowledge and skills which can be measured objectively on standardized tests. Answers are either right or wrong, and subjects are autonomous, with each discipline possessing its own scope and sequence of skills. Learning is viewed from this very linear perspective, "much like a train racing along a railroad track:"

> The course is predetermined and no detours are allowed. The only variable is the speed by which the journey is made. An unusually quick trip denotes a child whose learning ability is above grade level; an on-time arrival denotes a child at grade-level. All educators are familiar with the many labels for those who arrive late. Of course, many of those late arrivals never complete the trip, eventually choosing to jump from the train (Wills, 1995, p. 262).

In contrast, educators who view the goal of education as helping children reach their developmental potential emphasize teaching for understanding and learning as understanding.

Development as the Aim of Education*

Over the last half century, research from a variety of disciplines has provided support for other approaches to education that are responsive to how children learn and develop. Variously referred to as "teaching for understanding" (Cohen, McLaughlin & Talbert, 1993), developmentally appropriate practices (Bredekamp, 1987; 1995; Bowman, 1994), and the transactional model (Sameroff & Chandler, 1975), these approaches draw on the theories of Piaget, Dewey, Bruner, and Vygotsky.

Representing the disciplines of education, cultural anthropology, and developmental psychology, these theorists propose an integrated, holistic approach in which learning is viewed as an active process, driven by the innate need of children to construct their own understandings. In an environment that supports learning, children, rather than *receiving* meaning from expert adults, *construct* and *negotiate* knowledge and understanding through interaction with the social and physical environment.

According to Piaget, "The principal goal of education is to create people who are capable of doing new things, not simply repeating what other generations have done—people who are creative, inventive, and discoverers."

Thus, learning is regarded as a process, the personal discovery of the learner of the meaning of events for him or her. Each new discovery changes or refines prior knowledge, building a complex network of interconnected concepts (Kostelnik, 1992). True learning is regarded as both an "active change in patterns of thinking" (Kohlberg & Mayer, 1972), and the ability to use knowledge in new situations. According to Piaget, "The principal goal of education is to create people who are capable of doing new things, not simply repeating what other generations have done—people who are creative, inventive, and discoverers."

In this view, although "teaching as telling"—where the teacher does most of the talking, while children listen—is still a part of the educational process, it is only a part (Lieberman, 1995; Meier, 1995). As Bruner (1996) observes, "Even if we are the only species that 'teaches deliberately' and 'out of the context of use,' this does not mean that we should convert this evolutionary step into a fetish" (p. 22). Rather, learning is regarded as an adventure in which both teacher and children are engaged in joint inquiry, with teachers facilitating children's learning through posing thoughtful, open-ended questions, encouraging dialogue, and presenting challenging problems. Children are encouraged to learn from and with each other in classrooms and schools that help children learn, in Eisner's words (1991), "to develop an ethic of caring and create a community that cares."

Dangerous Dichotomies

While behaviorist approaches are characterized by teacher-controlled learning, instructional technology, quantifiable predetermined outcomes, and predictability, the transactional philosophy is characterized by following the child's lead, a "constant interchange of thoughts and ideas" (Kostelnik, 1992), and ambiguity. According to Elkind (1991), "The developmental approach tries to create students who *want to know*, whereas the psychometric approach seeks to produce students who *know what we want*" (p. 9).

Polarized in this way, the dichotomies between traditional educational approaches and transactional approaches seem clear: product versus process, skill versus meaning, objectivity versus subjectivity, a passive versus an active learner, parts versus wholes, simplicity versus complexity, and accountability versus fuzzy-mindedness. In short, to return to Russell's and Whitehead's argument, often the debate can be seen as offering a choice between being simple-minded and muddle-headed.

The reality, of course, is more complex. If public education was originally instituted to meet the needs of the workplace for a well-disciplined, homogeneous, semi-literate work force to "man" the factories and assembly lines, schools are now being asked to educate all students to the high standards of intellectual competence previously reserved for the few. The citizen

*"Development as the Aim of Education" is the title of an article by Lawrence Kohlberg and Rochelle Mayer, *Harvard Educational Review, 42*(4), 449-496.

Constructivist Classrooms

Constructivist theory is a set of beliefs about the nature of knowledge, development, learning, and teaching. It is a belief that we construct our own understandings of the world by reflecting upon our interactions with objects and ideas (Briggs, Folkers, & Johnson, 1996). In *The Case for Constructivist Classrooms*, Jacqueline Brooks and Martin Brooks (1993) list these characteristics of constructivist teachers. Such teachers:

- Encourage and accept student autonomy and initiative
- Use raw data and primary resources, along with manipulative, interactive, and physical materials
- Allow student responses to drive lessons, shift instructional strategies, and alter content
- Inquire about students' understanding of concepts before sharing their own understanding of these concepts
- Encourage students to engage in dialogue, both with the teacher and with one another
- Foster student inquiry by asking thoughtful, open-ended questions
- Seek elaboration of students' initial responses
- Engage students in experiences that might engender contradiction to their initial hypotheses and then encourage discussion
- Provide time for students to construct relationships and create metaphors
- Nurture students' natural curiosity
- Understand students' points of view as instructional entry points—which means that teachers must be good listeners as well as talkers

and employee of the 21st century will be expected to be adept at finding, using, and making sense of information, collaborative problem solving, thinking critically and imaginatively, resolving conflict, using technology, and understanding diversity.

Clearly, in order to "produce" such a citizen and worker, skills and meaning, process and product, and parts and wholes are essential to the learning process. While some educators, in the name of whole language or holistic math approaches, may have gone too far in de-emphasizing the role of formal instruction, good teachers have always balanced discovery learning with skill and strategy instruction (Routman & Butler, 1995). As Debbie Fagnant, a teacher in a Northwest classroom observed:

> We owe it to kids to give them the tools they need, and some of the tools are skills. In math, I value problem solving, but I also want children to know math facts. We use a lot of strategies to develop fluency, including games with dice and cards. Mental math is used to facilitate logical thinking and the development of strategies. Some second-graders are using flash cards—once I see that they have a solid understanding of addition, flash cards to memorize the facts are OK. But they're not appropriate for children if that understanding isn't firm. It would encourage memorization too early and de-prive them of the opportunity to form their own mathematical relationships (Novick, 1996).

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Clearly, children need to learn to read fluently and automatically, as well as with enthusiasm. They must learn to solve math problems quickly and efficiently, as well as exhibit an indepth conceptual understanding. Most importantly, as Fagnant's comments illustrate, young children need to establish a rich, solid conceptual base from which future learning will proceed (Kostelnik, 1992). Such a base enables children to make sense of their experience by forming connections between what they know and understand and the knowledge and concepts encountered in the new environment.

Brain research has helped us understand why teaching that emphasizes memorizing facts and practicing skills in isolation from their use does not lead to indepth understanding. The brain, we now know, is designed as a pattern detector—perceiving relationships and making connections are fundamental to the learning process (see sidebar on page 6) (Caine & Caine, 1997). Early experiences and interactions do not just create a context for development and learning; they directly affect the way the brain is wired—the connections that are formed be-tween neurons (Shore, 1997). Because the brain is predisposed to search for how things make sense, strong connections are formed when children make meaning from their experiences (Caine & Caine, 1990).

Principles of Brain-Based Learning *by Renate Caine and Geoffrey Caine*

1. The brain is a complex adaptive system. The brain ceaselessly performs many functions simultaneously. Thoughts, emotions, imagination, and predispositions operate concurrently and interactively as the entire system interacts with and exchanges information with its environment. Educators should consider all these aspects of brain functioning.

2. The brain is a social brain. The actual "wiring" of the brain is shaped as our immensely receptive brain/minds interact with our early environment and interpersonal relationships. It is now clear that throughout our lives, our brain/minds change in response to their engagement with others—so much so that individuals must always be seen to be integral parts of larger social systems.

3. The search for meaning is innate. In general terms, the search for meaning refers to making sense of our experiences. This is survival-oriented and basic to the human brain/mind.

4. The search for meaning occurs through "patterning." Perceiving relationships and making connections are fundamental to the learning process. Designed to discover and generate patterns, the brain resists having meaningless patterns imposed on it. By meaningless, we mean isolated pieces of information that are unrelated to what makes sense to a particular student.

5. Emotions are critical to patterning. What we learn is influenced and organized by emotions and mind-set involving expectancy, personal biases and prejudices, self-esteem, and the need for social interaction. Thus, emotions and cognition cannot be separated.

6. Every brain simultaneously perceives and creates parts and wholes. People have enormous difficulty learning when either parts or wholes are neglected. Parts and wholes are conceptually interactive. They derive meaning from each other.

7. Learning involves both focused attention and peripheral perception. The brain responds to the entire sensory context in which teaching or communication occurs. Educators should pay careful attention to all facets of the educational environment, including the unconscious signals that reveal our own inner attitudes and beliefs.

8. Learning always involves conscious and unconscious processes. We learn much more than we ever consciously understand. Thus, we remember what we experience, not just what we are told. Educators must attend to the proper design of the context, the incorporation of reflection and metacognitive activities and ways to help learners creatively elaborate on their ideas, skills, and experiences.

9. We have two types of memory: A spatial memory system and a set of systems for rote learning. We have at least one memory system actually designed for registering our experiences in ordinary, three-dimensional space. Spatial memory is generally best invoked through experiential learning, in which children engage in challenging, interactive activities. The system is always engaged and is inexhaustible. Although meaningful learning occurs through a combination of both memorization and experiential learning, facts and skills that are dealt with in isolation are organized differently by the brain and need much more practice and rehearsal. Concentrating too heavily on the storage and recall of unconnected facts is an inefficient use of the brain.

10. Learning is developmental. Development occurs in several ways. In part, the brain is "plastic." That means that much of its hard wiring is shaped by the experiences that people have. In part, there are predetermined sequences of development in childhood, including windows of opportunity for laying down the basic hardware necessary for later learning. Al-though the brain is most "plastic" during childhood, neurons continue to be capable of making new connections throughout life.

11. Learning is enhanced by challenge and inhibited by threat. The brain/mind learns optimally—it makes maximum connections—when appropriately challenged in an environment which encourages taking risks. When we feel threatened, we narrow the perceptual field by becoming less flexible and by reverting to automatic and often more primitive behaviors. This is why we must create and maintain an atmosphere of relaxed alertness, involving low threat and high challenge.

12. Each brain is unique. Although we all have the same set of systems, including our senses and basic emotions, they are integrated differently in each and every brain. In addition, because learning actually changes the structure of the brain, the more we learn, the more unique we become. Multiple intelligences and vast ranges in diversity are, therefore, characteristic of what it means to be human.

Sources: 21st Century Learning Initiative: http://www.newhorizons.org/ofc_21clicaine.html and from Understanding a Brain-Based Approach to Learning and Teaching, Educational Leadership, *1990, 48(2), 66-69.*

Teaching for Understanding

In classrooms where teachers teach for understanding and view learning as understanding, teachers avoid the dichotomies of a transmission model versus a more holistic approach to education. In such classrooms, the primary role of the teacher is neither to dispense information nor to rely solely on the child's maturation and individual construction of meaning. Instead, teachers assist children to reach higher levels of development and learning by orchestrating their engagement in challenging, interactive experiences and activities (Caine & Caine, 1997).

Vygotsky's sociocultural (or social-constructivist) framework increasingly provides guidance to early childhood educators. Lev Semenovich Vygotsky was a Russian literary scholar at the time of the Russian Revolution. Educated in law, literature, and psychology, Vygotsky was a teacher and practitioner throughout his short life. Calling his method of investigation of psychological processes the "experimental-genetic method," Vygotsky (like his contemporary Piaget) sought, primarily through observation, to understand how children learn and develop. He emphasized child development because he believed it to be the primary theoretical and methodological means necessary to unravel complex human processes, such as thought, language, and behavior. His framework draws attention to the social nature of learning and the pivotal role of caregivers and teachers in assisting the child to reach a higher level of learning and development.

In *Mind in Society* (1978) Vygotsky wrote, "Human learning presupposes a specific social nature and a process by which children grow into the intellectual life around them ... the only 'good learning' is that which is in advance of development." Formal education and other cultural forms of socialization are key in leading the child along the developmental pathway to adulthood. To do so, teachers collaborate with children in joint activities that are chosen to fit the child's level of potential development, or to use Vygotsky's term, the "zone of proximal development" (Berk & Winsler, 1995).

The zone of proximal development is the hypothetical dynamic region in which learning and development take place. It is defined by the distance between what a child can accomplish during *independent* problem solving and what he or she can accomplish with the *help* of an adult or more competent peer. The idea of the *scaffold*, introduced by Wood, Bruner, and Ross (1976), builds on this concept. Scaffolding is a flexible way to provide temporary, adjustable support to children's efforts that is sensitively attuned to their needs (Berk & Winsler, 1995). In an educational approach based on scaffolding children's learning, both adults and more competent peers play important roles in children's learning: an *active child* and an *active social environment* collaborate to produce developmental change (Berk & Winsler, 1995). Glennellen Pace (1993) describes the role of the teacher in a classroom based on social-constructivist theory:

> This is not a *laissez-faire* approach. As the teacher, you are a central player, not someone who "sits-out," afraid of "getting in the way of" students' knowledge construction. But neither is this approach teacher centered, where your meanings are the meanings students must "get." Instead, you play multiple roles: demonstrator, mediator, keen observer, and listener (pg. 4).

Creating a state of disequilibrium in a child's understanding through posing questions and problems followed by discussion is a strategy used frequently in social-constructivist classrooms. Three Northwest teachers describe their approach to teaching math in their blended first-and-second grade classrooms:

> As teachers, we look for challenging problems that will land our students on the edge of a cliff. We must help them find the motivation and courage to take the leap across the chasm. Not every learner needs the same distance to cross. If the gap is too wide, a child will falter and lose confidence. If too narrow, the child won't stretch, and instead just follow a prescribed course. Students must take this leap of understanding, over and over again. When the confusion is resolved, a bridge has been built across the chasm, bringing power and flexibility of thinking (Briggs, Folkers, & Johnson, 1996, p. 36).

Balancing Contradictory Demands

Few educators would argue with the view that power and flexibility of thinking should be the goals of schooling. However, because schools are often expected to create "quick fixes" to complex problems, the demands made on teachers to prepare the citizen and employee for the 21st century are sometimes contradictory. Teaching for understanding may be merely added on to a curriculum designed to meet scientific management assumptions of objectivity and efficiency. Thus, teachers are often exhorted to:

- Emphasize multiple intelligences *and* increase standardized test scores
- Facilitate higher-order thinking *and* memorization of isolated facts
- Nurture individual development and cultural diversity *and* get everyone to the same destination at the same time
- Create schools which are exciting, lively places that engender enthusiasm for learning *and* maintain orderly classrooms in which all students are quietly "on task"

Of course, good teachers must, on a daily basis, balance these seemingly dichotomous expectations, and often they must do so in a context of increasing need and diminishing resources. Ironically, as schools are increasingly becoming key players in reducing violence and criminal behavior, nurturing resilience, and providing a safe haven for at-risk youngsters, many states have seen their educational and human resources budgets remain the same or even shrink. According to Orfield (1994):

> One of the distinguishing differences between the education reform debate in the 1990s and the excellence movement in the 1980s is that there is virtually no momentum to provide substantial additional resources to accomplish these new goals. In the late 1980s many states adopted substantial additional resources to accomplish these new goals; many states adopted new taxes. Now the assumption is that new and substantial resources are not needed. This means that there are intensified demands on schools and districts, many of whom are already experiencing severe fiscal stress and no significant funding for new staff or serious new training.

...Because schools are often expected to create "quick fixes" to complex problems, the demands made on teachers to prepare the citizen and employee for the 21st century are sometimes contradictory.

If school reformers are to avoid the pitfalls of Russell's and Whitehead's argument and the Alice in Wonderland world described by Darling-Hammond (1990), professional development activities will need to help teachers balance the inevitable tensions that result from increased and sometimes conflicting expectations: getting children ready for next year and helping children reach their development potential; preparing children to live successfully both in their own culture and in the dominant culture; addressing the challenges of equity and excellence in a context of growing economic inequality.

To meet these demands requires time for observation, practice, reading, reflection, dialogue with colleagues, and support for these practices at the district, state, and federal levels. In a climate that supports true reform, everyone involved will be both a teacher and a learner. Wilson and colleagues (1996) note:

> If visions of reform hold any prospect of influencing American schools, new learning will need to occur at multiple levels. Policymakers will have to learn, as well as children; teachers, as well as parents. Administrators, curriculum developers, school board members—everyone will have to learn (p. 469).

Changing the Core of Educational Practices

Creating learning communities, where everyone is engaged in challenging and meaningful activities, requires changes in the "core of educational practice"—in the "fundamental relationships among student, teacher, and knowledge" (El-more, 1996). Researchers have consistently found that in order for teachers to facilitate higher-order thinking and a love of learning in children, they must be viewed as intellectuals, capable of creating new knowledge to inform instructional practice, and of designing (often in concert with parents and students) authentic learning situations (Carr & Braunger, 1997). According to Newmann and Wehlage (1995), a learning situation is authentic if students are engaged in high-order thinking, are developing a deep understanding of subject matter, participate in classroom discourse to build shared understanding, and can relate their knowledge to public issues or personal experience:

Our standards emphasize teaching that requires students to think, to develop indepth understanding, and to apply academic learning to important, realistic problems. We call this "authentic pedagogy," and we found that authentic pedagogy boosted student achievement equitably for students of all social backgrounds (p. 3).

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"Despite a search for common viewpoints, multiple reforms, and many changes, *much stays the same!*" (Caine & Caine, 1997)

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Yet, as Tyack and Tobin (1993) point out, the public's idea of a "real school" is remarkably resistant to change. Caine and Caine (1997) observe, "Despite a search for common viewpoints, multiple reforms, and many changes, *much stays the same!*" (p. 3). Despite a rich literature on adult learning and human development which supports teachers' need for a wide array of opportunities to engage in authentic learning activities, the "one-shot workshop" remains the primary method of providing inservice professional development. Ann Lieberman, Professor at Teachers College, Columbia University, and co-director of the National Center for Restructuring Education, Schools, and Teaching, writes:

> What everyone appears to want for students—a wide array of learning opportunities that engage students in experiencing, creating, and solving real problems, using their own experiences, and working with others—is for some reason denied to teachers when they are the learners. In the traditional view of staff development, workshops and conferences conducted outside the school count, but authentic opportunities to learn from and with colleagues inside the school do not (1995, p. 591).

There are many reasons why, as Miller (1995) puts it, "The old model of staff development survives in a world where everything else has changed" (p. 1).

Staff Development in the Northwest

In order to get a picture of staff development in the Northwest, Northwest Regional Educational Laboratory (NWREL) staff designed a survey on staff development activities in the primary grades—kindergarten through grade two. Ninety-eight educators, including 13 principals, nine district personnel, and 76 classroom teachers from five Northwest states responded to the survey. They represent 25 districts (ranging from rural to urban)—five districts each from Alaska, Idaho, Montana, Oregon, and Washington. The results are presented in Appendix A.

Eighty-nine of the respondents reported at least some graduate work; 44 held masters degrees and five held doctorates. They ranged in years of experience in education from one to 36 years, with an average of 17.81 years. Eighty-six of the 98 were female, with only two male classroom teachers. Based on this small sample, it appears that primary teaching is still very much a female profession. The average number of days provided annually for professional development was 5.18, with a range of 0-12. The average number of days per year that respondents reported that they can *choose* the type of staff development was 2.22. District personnel reported the highest degree of choice, with 4.11 days, and teachers the lowest, with 1.83 days.

These educators regarded professional development as highly important, with a mean of 4.63 out of a total of five points (with one being lowest, and five the highest). Seventy-one of the 98 rated the importance of staff development a "five." They reported that staff development had been provided on a variety of topics over the past academic year; technology was the most frequently mentioned topic, reported by 68 respondents.

Respondents were asked to report how often teachers were involved in the planning, selection, presentation, and evaluation of training and workshops. When responses from teachers, principals, and district personnel were combined, the average scores on all of these questions were in the "sometimes" to "often" range, with means of 2.55 (out of a possible five points) on planning, 2.45 on selection, 2.42 on presentation, and 2.98 on evaluation. Teachers rated their participation in these activities consistently lower than either principals or district personnel's perceptions of their participation (see Appendix B). For example, only 27.8 percent of teachers reported that they often were included in the planning and selection of workshops, while 66 percent of district personnel and 38.5 percent of principals reported that teachers were often included in these activities.

Four questions regarding opportunities for all respondents for collaborative study of teaching practices, planning and problem solving, peer coaching, and school/university partnerships were given relatively low scores by all respondents, with means of 1.92, 1.98, 1.71, and 1.81, respectively. More than one-third of teachers reported that they *never* had opportunities for these activities. The following table reflects the responses of teachers *only* to these questions.

Respondents were asked how important they rated the inclusion of preschool providers in staff development activities. The average score was 3.43 out of a possible five points (with one being lowest, and five the highest). However, when asked how often Head Start staff and other preschool providers were actually included in staff development activities, 53 respondents reported that this never occurred; the average score was 1.31—in the "never" to "sometimes" range. While time and money were the most commonly offered reasons for not including preschool providers, a number of respondents indicated that "they had never thought of it."

Several answers on this topic reflected the belief that the academic focus of primary teaching was too different from that of child care and preschools, which some respondents regarded as babysitting. While a number of respondents reported that these early years should not be the concern of public school teachers, others expressed concern that the importance of early intervention was not more appreciated by public school educators.

Respondents rated their satisfaction with the degree to which professional development activities are based on school community members' needs, goals, and interests; the clearness and coherency of the staff development plan; and the degree to which professional development is aligned with state reform efforts. These scores were 3.30, 2.88, and 3.49 respectively, out of a possible five points (with one being lowest, and five the highest). Access to follow-up activities to help implement new practices received a 2.83; 18 respondents reported that they were "not at all" satisfied with follow-up activities.

Overall satisfaction with professional development was rated at 3.15 out of five points. Time was listed as the biggest barrier to successful staff development, mentioned by almost every respondent. Money to pay for substitute teachers and for quality presenters was the second-most-frequently mentioned barrier. Other barriers included lack of leadership from administrators, lack of a coherent,

Opportunities for teachers to engage in:	Never[1]	Sometimes[2]	Often[3]	Always[4]	Mean	Median
Collaborative study teaching practices	40.3%	37.5%	20.8%	1.4%	1.83	2.00
Collaborative planning/problem solving	35.2%	46.5%	16.9%	1.4%	1.85	2.00
Peer coaching	47.8%	41.8%	9.0%	1.5%	1.64	2.00
School/university collaboration	37.7%	53.6%	8.7%	0.0%	1.71	2.00

long-term vision, and the difficulty of meeting the needs of teachers with diverse needs, interests, and philosophies. While several principals and district personnel mentioned teachers' reluctance to use their own time and money for staff development as a barrier, a number of teachers expressed the belief that the expectation that they would use their own time and money for staff development was unrealistic. The isolation of some rural districts was also seen as a making it difficult to access quality presenters and to engage in collaborative efforts.

Respondents were very positive about the benefits of well-planned staff development, reporting that successful staff development resulted in higher morale, new insights that improve practice in the classroom, increased student learning, and better teamwork and commitment of staff.

Discussion. Based on comments, as well as the high overall rating of the importance of professional development (4.63 out of the highest possible score of five), these educators place a high value on staff development. Benefits to staff, children, and the school as a whole were reported. Working collaboratively toward a common goal was seen as highly important, resulting, in the words of one teacher, in a "rededication to the teaching profession as a whole." Collaboration with principals to improve child outcomes was seen as resulting in "a well-prepared, highly motivated, pro-child staff." "It [good staff development] makes you stop and think," said one teacher. "Time to reflect on what we're doing and why brings new energy to teaching," wrote another.

Participants' answers to the question regarding major successes in professional development indicated a high degree of agreement on the characteristics of effective practice. According to their comments, staff development should:

- Include staff in planning and scheduling of activities
- Be determined and carried out at the building level
- Have a clear direction—a coherent, long-term vision

These educators believed that staff development could be a powerful force in making positive change in practice—leading to "more productive, coherent, consistent teaching," as one teacher put it. Several teachers reported that, at least in their districts, they are moving toward greater teacher involvement. The numbers of teachers reporting that they participated in planning, selection, presentation, and evaluation of workshops (with average scores in the sometimes-to-often range) indicate that many teach-ers do have considerable involvement in these processes.

However, opportunities to engage in collaborative study of teaching practices, planning and problem solving, and peer coaching were relatively rare. Given the many benefits of collaborative efforts cited by all respondents—as well as strong support for these activities from research in school restructuring—the low scores on opportunities to engage in these activities is of concern. Numerous respondents commented that, "We need time to listen and understand another teacher's practices," "time to explore and implement new practices;" "time to plan, to get together and discuss issues;" "time for follow-up activities to really incorporate new knowledge into teaching practices." More than one-third of teachers reported that time to get together to discuss teaching practices and to plan collaboratively was "nonexistent."

Inclusion of preschool providers. The relatively high rating for the importance of preschool providers in staff development activities (3.43 out of a possible five points) contrasts with the actual inclusion of these providers (1.31). Answers indicated a wide range of opinion on the importance of such collaboration. Clearly, not all school-based staff development activities would be relevant for preschool providers. However, opportunities for school staff to learn about children's experiences prior to entering public school can help teachers provide continuity for children and families, as they transition between these two distinct systems (see pages 21-22 in this document). Preschool teachers often have a wealth of information about children's learning styles, strengths, and needs. Increasingly, early childhood educators advocate for more collaboration between early care and education professionals and public school teachers (Kagan, 1994; Phillips, 1994).

Increasing demands and decreasing resources. It should come as no surprise that time was overwhelmingly cited as the biggest barrier to effective staff development (see page 12 in this document). Although a number of respondents mentioned that they had negotiated an early release time once a month by extending the school day by a few minutes each day, time was viewed as "a constant barrier." While a few teachers believed that staff development was not valued by their district and administration, more respondents indicated that it was difficult to convince families and the community "who want kids in school" that "teachers need time to learn, too."

A number of respondents expressed the belief that in order to prepare children for the 21st century, professional development is becoming increasingly important. As teachers move to "authentic pedagogy," the need for teachers and principals to be competent in areas such as technology, family involvement, cultural diversity, and learning theory presents complex demands on schools. "So much is happening so quickly and with less time and resources," one teacher pointed out. Linking staff development to improved teaching and child outcomes was of critical concern for these educators. Clearly, in order to do so, policies must be in place that support teachers' and administrators' efforts to work collaboratively toward the common goal of increased student learning.

Barriers to Effective Professional Development and School Reform

Teacher Preparation

Although there are a number of notable exceptions, many institutions providing teacher training and certification do not prepare teachers to create schools where dialogue, reflection, and inquiry are valued and practiced. Rather, teacher-preparation institutions typically use a model in which experts impart technical skills and knowledge to teachers in a context that is divorced from the classroom. Courses are organized according to academic disciplines, with scant attention paid to examining the problems of actual practice (Cohen, McLaughlin, & Talbert, 1993; Little, 1993).

Not only are practicums and student teaching seldom supervised by the same people who teach the courses, but often there is little institutionalized support for making the connections between what it means to understand a subject and how the subject can be taught and learned (Cohen et al., 1993, p. 45). When teacher preparation is based on a transmission model of learning, a central dilemma for teachers becomes how to teach in ways one has seldom or never experienced (Darling-Hammond & McLaughlin, 1995; Little, 1993; Meier, 1995).

Time and Funding

The process of changing one's practice is difficult and slow (Cohen et al., 1993; Espinosa, 1992), even when there is adequate time for ongoing peer coaching, self-reflection, and collegial inquiry. Yet, time—arguably one of the most critical elements of staff development—is usually in short supply for teachers whose typical day, in Eisner's words, "isolates them from their colleagues and gives them scarcely enough discretionary time to meet the needs of nature" (p. 723). Cohen et al. documented the partnership between two teachers and a college professor who taught part time in their classrooms:

> For years, Miller and Yerkes (the teachers) had had no time to breathe during their typical workday. Half serious, half joking, Yerkes told Wilson (the college professor) that the biggest delight of having her teach every afternoon was that there was time to go to the bathroom, to get a glass of water, to make a phone call. These little luxuries had been unknown to her, and were no small reward for the decision to collaborate (p. 92).

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..Time—arguably one of the most critical elements of staff development—is usually in short supply for teachers ....

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Because teaching is defined as "time on task" in a classroom setting, teachers in the U.S., compared to most European countries, have very little "release time" for staff development (Darling-Hammond, 1993). According to Caine and Caine (1997), the average elementary school teacher in China and Japan spends approximately 40 percent of the day in planning and curriculum consultation, and rarely teaches more than three hours a day. In the United States, that planning time translates into anything from a half-hour to one or two hours per week.

Meier (1995) compares the four weeks of staff development time that a Saturn plant in Tennessee provides for its workers to the one or two days a year of professional development that most teachers enjoy. Darling-Hammond and McLaughlin (1995) cite a 1986 study which found that schools spent less than 1 percent of their budgets on professional development, a figure that is declining even further in the current climate of budget cuts for education and social programs.

These cuts come at the same time when schools are expected to solve complex problems in low-achieving schools, and to solve the problems quickly and efficiently. Such expectations ignore the common sense understanding that true change comes slowly. Writes Tony Wagner, Assistant Professor of Education at the University of New Hampshire:

> In my experience, the scarcest resource in the change process—even more than money—is time. Time for teachers to discuss students' needs, observe one another's classes, assess their work, design new curriculums, visit other schools, and attend workshops. Time for teachers and stu-

dents to get to know one another. Time for parents and community members to become involved in children's learning. Time for leaders at all levels to reflect and plan collaboratively. Time—perhaps five years—to rethink the purposes of education, reinvent teaching and learning, and create new school cultures (1993, p. 28).

Bureaucratic Structures

The egg-crate elementary school, where children are moved in batches through a prescribed curriculum, still provides the framework for our educational system (Tyack & Tobin, 1993). In what has been popularly described as "the second-most-private act," teachers teach approximately 30 children in classrooms that are typically isolated from each other. As Darling-Hammond and McLaughlin point out, "Almost everything about school is oriented toward going it alone professionally. Inside school, teachers are inclined to think in terms of 'my classroom,' 'my subject,' or 'my kids'" (1995, p. 601).

Sharing problems and their solutions, collegiality, and collaborative inquiry do not find fertile ground in the factory-model school, with bureaucratic principles of efficiency, hierarchical authority, procedural specificity, an emphasis on competition, and a view of teachers and principals as interchangeable parts (Clark & Astuto, 1994). The belief that teaching is a set of technical skills leaves little room for creativity, imagination, and invention (Lieberman, 1995). When teachers are viewed as technicians or actors in a play, they are expected to implement established procedures, not to invent their own interventions (Pogrow, 1996). According to Lorraine Barclay, a Northwest staff development specialist, "Schools are not intelligent places. We set them up to manage. We don't set them up to think. They need to be set up as learning places" (Kneidek, 1994, p. 1).

Fred Newmann, Professor of Curriculum Instruction at the University of Wisconsin-Madison and director of the Center on Organization and Restructuring of Schools, concluded that schools are often designed as "individualistic bureaucracies" which "tend to breed alienation that suppresses learning and creative spirit" (1993, p. 7). Based on a synthesis of literature about human growth and development, Argyris (cited in Clark & Astuto, 1994) concluded that hierarchical, bureaucratic work environments are more likely to lead to immature behaviors, such as passivity, de-pendence, and lack of self-control and awareness. These characteristics are incompatible with the active, problem-solving stance required for engaging in and facilitating authentic learning experiences.

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The belief that teaching is a set of technical skills leaves little room for creativity, imagination, and invention (Lieberman, 1995).

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Viewing students as workers. Equally problematic for creating learning communities is the marketplace metaphor of schooling. While most educators would agree that education should prepare children to find meaningful work as adults, the idea that education is a business—that "the modern school should look ... like our best high-tech companies" (David Kearns, quoted in Kohn, 1993)—runs counter to the belief that schools should help children become self-directed lifelong learners

When education is seen primarily as a means to make our country's corporations more competitive in a global economy, children are viewed as potential workers. "But in the last few years," says author and educator Alfie Kohn, "we have witnessed a shift to something even more ominous: a view of students as *actual* workers" (1993, p. 59). Kohn sees the view of students as workers—either actual or future—as conflicting with helping children become caring, thoughtful, intellectually curious people: "If we look at students and see future employees, we not only distort learning by reducing it to fiscal terms, but also collapse the present into the future, ignoring the fact that what children need, experience, and deserve right now is intrinsically important" (p. 67).

The widespread belief that our faltering educational system is putting our nation at risk economically has also resulted in the promotion of national and/or state standards and assessments as a means for improving curriculum and student performance in school. A number of educators and researchers, however, have raised serious concerns about "top-down specifications of content linked to tests" (Darling-Hammond, 1994, p. 478).

Evaluation Practices

When teachers move to teaching practices that emphasize indepth understanding, they often find that the scientific-technological philosophy of education still greatly influences evaluation practices. In turn, these practices shape curriculum. While a number of states have instituted rigorous tests that students are required to pass before they can graduate from high school, Portland high school teacher Bill Bigelow warns that such tests often are "little more than high stakes Trivial Pursuit or Jeopardy" (Bigelow, 1998). "Such tests," notes Michael Apple (cited in Howard, 1998), Professor of Curriculum and Educational Policy at the University of Wisconsin, may "create a tail-wagging scenario, in which students ask their teachers, 'This is interesting, but will it be on the test?'" Darling-Hammond found that, when multiple-choice tests were used, not only did teachers teach to the test, but there was a "dumbing down of instruction," an emphasis on drill and practice of

decontextualized skills (cited in Shepard, 1989):

> Teachers taught the precise content of the tests rather than underlying concepts; and skills were taught in the same format as the test rather than as they would be used in the real world. For example, teachers reported giving up essay tests because they are inefficient in preparing students for multiple-choice tests (p. 5).

Many educators argue that such tests result in no benefits to children and may instead have harmful effects. According to Samuel Meisels, Professor in the School of Education at the University of Michigan (1993):

> Readiness tests have been used to track young children into extra-year programs or to convince parents to hold out their children from school until they are year older. Achievement tests have bolstered decisions to retain record numbers of children in kindergarten through third grade. And state-mandated skill-oriented tests in third or fourth grade have helped to bring about a downward spiral in early childhood curricula and early primary teaching (p. 1).

Not surprisingly, children who score lowest on standardized tests are often seen as unready to learn higher-order thinking and may be relegated to a "drill and skill" curriculum, that does not enable them to grasp underlying concepts. While the intent of such assignments may be to ensure the mastery of basic skills, the result instead may be to alienate children from learning. A number of educators argue that such attempts to "stamp a uniform education" (Bowman, 1994) on students leaves the learner out, making it hard for him or her to build new knowledge and new understandings (Goodman, 1994; Meier, 1995; Nieto, 1994).

A 1992 study by Poplin and Weeres (cited in Nieto, 1994) concluded that students became more disengaged as the curriculum, texts, and assignments became more standardized. This is particularly true for poor and minority students, who often start out farthest from the standard and for whom "turning standards into simple yardsticks can be devastating" (Goodman, 1994, p. 39).

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When teachers move to teaching practices that emphasize indepth understanding, they often find that the scientific-technological philosophy of education still greatly influences evaluation practices.

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Early childhood educators are unequivocal in their condemnation of standardized tests that focus on the accumulation of isolated facts. As long as our educational system considers coverage of a prescribed curriculum, mastery of discrete skills, and increase of achievement test scores of paramount importance, implementing a "mindful" (Bredekamp & Rosegrant, 1995) and "thinking" (Darling-Hammond, 1994) curriculum will remain problematic. Teachers striving to implement such a curriculum will often struggle to meet the requirements of two incompatible systems based on widely differing philosophies of education.

Developing tests worth taking. But how do we know that we are meeting valid educational goals? Whereas a number of educators are concerned that standards based on an industrial model of schooling, with an emphasis on uniformity, can be harmful to teaching and learning, well-conceived curriculum standards can be used as "tools for informing curriculum building, teaching practice, and assessment" (Darling-Hammond, 1994). Rather than creating a wall around the curriculum, such flexible standards can provide a framework for local educators to reflect on and evaluate their own efforts to change their teaching practices to better meet the needs of children and families in their own communities.

For example, in Oregon, teachers and administrators from three school districts in Lincoln County have developed developmental continua for kindergarten through second-grade students in reading, writing, and math. Tied to the benchmarks on the state assessments that begin in the third grade, these continua provide valuable information for parents, teachers, and children. "Yes, we teach to the test," says Jeanne St. John, a principal in one of Lincoln County's primary schools, "but it's a good test. Our benchmarks at the primary level test indepth, conceptual understanding, and provide information for parents who are hungry for real data. They want to know where their kids are, and if they need extra help to meet the state standards."

Although with any assessment, there is the risk that teachers will feel pressured to teach concepts using an approach that emphasizes memorization of discrete facts, St. John reports that teachers in Lincoln County are learning that they cannot directly teach the content using a rote learning approach. As a result, many teachers are becoming good observers of children, and are providing the learning experiences that children need to become compe-

tent speakers, writers, readers, and problem solvers. In many classrooms, children have learned to use the benchmark scoring guides to reflect on their own work and to provide feedback to others. Recently, St. John was invited to a neighboring school to read a story to a first-grade class. To her surprise, at the end of the story, children asked her if she would like feedback on her performance:

> These first-graders told me that I made good eye contact, I spoke very clearly, everyone could hear me, and I held the book so everyone could see the pictures. Already, the children have internalized the scoring guide that will be used to evaluate their presentations that begin in the third grade. Their teacher had turned something that might have been scary into a very useful tool (personal communication, November 18, 1998).

Improving the match between assessment and a "mindful" curriculum can do much to reduce the tension that many teachers feel, as they work to implement a curriculum that is responsive to how children learn and develop. Authentic assessments that reflect the child's performance during typical activities in the classroom provide a more meaningful picture of children's development than standardized test scores. They address a much broader definition of intelligence, encourage children to become reflective, self-directed learners, help parents to see their children's progress, and provide information to individualize and improve instruction.

Personal Resistance to Change

In addition to the many structural barriers to effective change, resistance to change is deeply rooted in individual and group culture (Evans, 1993). Teachers not only have to add new tasks, habits, and competencies to their repertoire of teaching strategies; they also have to unlearn old habits and, in some cases, give up long-held assumptions. Evans writes:

> Students of organizational behavior recognize that resistance to innovation is deeply rooted in individual and group culture. Human beings are profoundly ambivalent about change .... Our ambivalence is sensible. Change raises hope because it offers growth and progress—but it also stirs fear because it challenges competence and power, creates confusion and conflict, and risks the loss of continuity and meaning ...

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> The primary metaphor for change is, as Marris (1986) has so elquently shown, loss: we suffer bereavement not just from the death of loved ones, but from the discrediting of the assumptions by which we live and make sense of our world and our work (p. 20).

In addition, teachers, who may have been confronted with a number of waves of reform, have reason to be skeptical of giving up comfortable practices, when the value of learning new approaches may not be well established. Milbrey McLaughlin notes: [the practitioner] "contemplating a change in classroom organization might be confronting a complicated innovation that showed no clear advantage over existing practices—at least in the ways that often matter most to school boards, voters, and anxious parents" (cited in Tyack & Tobin, 1993).

Clearly, in order to embark on a long and unsettling change process, teachers must have ample opportunity to address their own questions and concerns, and to examine their values and beliefs, in the context of a learning community. As Joyce and Calhoun (1995) point out, "staff development must not be offered as, 'Here is stuff that has been researched, so use it!'" (p. 54). Rather, effective staff development requires opportunities for observation, practice, feedback, dialogue and collaboration—to be enriched by what Meier (1995) refers to as "the power of each other's ideas."

Inquiry-Based Professional Development

As early as 1967, Schaefer proposed that schools should be centers of inquiry "where faculties continuously examine and improve teaching and learning and where students study not only what they are learning in the curricular sense, but also their capacity as learners" (cited in Joyce & Calhoun, 1995, see p. 51). Unlike standardized curricula, which provide certainty and predictability, new approaches to teaching require teachers to weigh conflicting demands, assess the effectiveness of their practices, and make decisions based on their discoveries. Because supporting children's learning requires teachers to better understand how each child understands what he or she is learning, knowledge is tentative and contextualized (Omalza, Aihara, & Stephans, 1997). Little (1997) suggests that the "test of effective professional development is whether teachers and other educators come to know more about their subjects, their students, and their practice, and to make informed use of what they know."

Schools as Caring Communities

Collaborative inquiry can only thrive in a climate of mutual respect and interdependence.

In contrast to bureaucratic organizations, schools organized as caring communities have been shown to foster a shared sense of responsibility, self-direction, experimentation, res-pect for individual differences, and high expectations (Clark & Astuto, 1994; Lewis, Schaps & Watson, 1995; Newmann, 1993). Caring communities are defined by Lewis et al. as: "places where teachers and students care about and support each other, actively participate in and contribute to activities and decisions, feel a sense of belonging and identification, and have a shared sense of purpose and common values."

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Unlike standardized curricula, which provide certainty and predictability, new approaches to teaching require teachers to weigh conflicting demands, assess the effectiveness of their practices, and make decisions based on their discoveries.

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Key to the establishment of a community of learners is a principal who encourages teachers to examine teaching and learning, and implement ideas and programs that result from reflective practice (Reitzug & Burrello, 1995). Just as the role of the teacher is changing from dispenser of knowledge to children to "co-constructor" of knowledge *with* children, the role of the principal is evolving from direct instructional leadership to the role of facilitator of group inquiry, colearner, collaborative leader, liaison to the outside world, and orchestrator of decision-making (Wohlstetter & Briggs, 1994).

A Northwest principal observed, "I no longer believe in school restructuring. I believe in changing adults. And adults change when they feel secure and can personally make decisions to do so" (Jewett & Katzev, 1993).

At Mary Harrison Primary School in Toledo, Oregon, former Principal Barbara Fields kept a poster that read, "People support what they create." Over the seven years that Fields spent at Mary Harrison, staff worked together to keep communication open, build on strengths, and practice problem solving:

> From the beginning, I worked hard to help staff take ownership if they got bogged down. When someone came with a problem, I turned it back. I asked, "How are you going to solve it?" This process is less clear-cut, more frustrating, and messier, but the outcome is better. There is more ownership and buy-in when we're all part of the problem-solving process. It becomes a school problem, and "how are we going to solve it as a school?" We should always be looking to do a better job. There's no one right answer.

In democratic school communities, principals and teachers, often together with parents and children, engage in inquiry into curriculum, instruction, and assessment in efforts to improve teaching and children's outcomes. As teachers collaborate to develop and evaluate new practices, such as authentic assessment, family involvement

and support, a literacy program, culturally responsive teaching, or multiage classrooms, the inquiry process itself becomes an important component of staff development, providing opportunities for teachers to articulate goals, address questions and concerns, and find solutions together (Clark & Astuto, 1994; Darling-Hammond & McLaughlin, 1994).

Issues of social justice and equity are at the center of this vision of school reform and professional development. Based on research with diverse cultures, Cummins (1986) concluded that "widespread school failure does not occur in minority groups that are positively oriented towards both their own and the dominant culture, that do not perceive themselves as inferior to the dominant group, and that are not alienated from their own cultural values" (p. 22). Educators are increasingly advising that staff development opportunities should include encouragement of staff to examine their attitudes toward different ethnic, racial, gender, and social class groups (Banks & Banks, 1995; Delpit, 1995). Because our own cultural patterns and language are seldom part of our conscious awareness and seem quite natural, "just the way things are," we often forget that our taken-for-granted beliefs and values are interpretations which are culturally and historically specific. As Native American author Jameke Highwater says, "We do not all see the same things" (1981, p. 59).

As our schools increasingly are becoming culturally diverse, our teachers are becoming increasingly white and middle class (Delpit,1995). When members of the dominant culture have little opportunity to experience other ways of seeing and knowing, other world views are dismissed as illusions (Highwater, 1981) or as deficient, in need of remediation. In *To Become a Teacher*, Nancy Balaban (1995) says:

> Critical to truly seeing and understanding the children we teach is the courage to reflect about ourselves. Facing our biases openly, recognizing the limits imposed by our embeddedness in our own culture and experience, acknowledging the values and beliefs we cherish, and accepting the influence of emotions on our actions are extraordinary challenges (p. 49).

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Issues of social justice and equity are at the center of this vision of school reform and professional development.

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Banks and Banks (1995) argue that multicultural awareness cannot be a one-time event; it can only be achieved through indepth work. For both children and teachers, strategies such as writing their life stories, reflecting on their own life journeys, and videotaping classroom interactions and examining them for bias can help all concerned gain the self-awareness needed to begin a classroom discussion on the deeply held, often taken-for-granted beliefs and biases that make up the ecology of the classroom and society. When teachers encourage children to "construct a knowledgeable, self-identity" by validating children's culture and home language, they are simultaneously preparing children to live successfully in two worlds—their home culture and the larger society (Derman-Sparks, 1989).

Methods of Inquiry

The Curriculum Inquiry Cycle. In order to help teachers fulfill their new role of curriculum developer as well as curriculum implementer, NWREL staff have developed a process known as the Curriculum Inquiry Cycle. According to authors Maureen Carr and Jane Braunger, "Curriculum inquiry involves teachers in determining the critical experiences necessary to engage students in meeting challenging standards" (1998, p. 8). The recursive process involves examining current practice, making decisions, creating optimal learning environments, and researching classrooms.

> Through the curriculum inquiry cycle teachers can look deeply into their ideas about knowledge, the roles that students and teachers play in the development of knowledge, and the relationship between their conceptions of learning and teaching and the kind of learning that occurs in classrooms (Carr & Braunger, 1998, p. 7).

The ongoing cycle of curriculum renewal is based on the premise that professional development should assist teachers to get in touch with their implicit theories or beliefs about teaching and learning to form coherent, rational theories based on evidence. A major goal of this NWREL project is to assist teachers and schools to create self-sustaining processes for improving curriculum and instruction. It is prompted by key questions central to teaching and learning:

- **Examining Current Practice**
  What does my teaching look like? Why do I work this way? What does this tell me about how I think about curriculum? Is my current practice making a difference in student learning?
- **Setting Priorities**
  Are my practices consistent with what is known about how people learn? Are content and performance standards reflected in my teaching practice? Am I aware of alternative models of teaching?
- **Creating an Optimal Learning Environment**
  What are the dynamics of an optimal learning environment? What learning experiences are essential? What assessments are appropriate?

■ **Expanding Teacher Knowledge through Classroom Research**

What dilemmas, questions, or concerns about teaching and learning do I want to explore? How can I collaborate more with colleagues? How will I share my research?

According to Carr and Braunger (1998), teachers who have worked with the curriculum cycle have been most positive about the dialogue that it encourages with colleagues, dialogue that grows to include other colleagues not engaged in the inquiry process.

Action research. Action research is a similar process for engaging educators in the change process (see sidebar on page 19). The term "action research" was developed by Collier (1945) as a description of collaborative activities where research contributed to the improvement of Native American farming practices. In education, action research is a cyclical process that involves identifying a general idea or problem, gathering related information, developing an action plan, implementing the plan, evaluating the results, and starting over with a revised idea or problem (McKay, 1992).

Developing Authentic Literacy Assessment in Juneau, Alaska

Eight years ago, when Juneau schools moved toward a whole language approach to literacy and integrated curricular approaches that emphasize understanding over rote learning, primary teachers sought alternatives to the psychometric method of assessment; they found few models that met their needs. They wanted assessments that would address a broader definition of intelligence than that of standardized tests, encourage children to become reflective, self-directed learners, provide information to individualize instruction, and help parents to see their children's progress.

They wanted a lot, and over the next few years, a number of the district's primary teachers worked together to develop a language arts portfolio system that would meet all these criteria. The language arts portfolios developed by Juneau primary teachers are now used in all the district's first- through fifth-grade classrooms and are increasingly used in districts throughout the state. They include a student reflection letter, written teacher narratives, reading and writing samples, a reading attitude survey, observations of speaking and listening, and reading and writing continuums.

The continuums not only chart student performance but also provide guideposts for teaching. "They provide the best training," says Mary Tonkovich, a district librarian. "In developing and using the continuums, some already good teachers have become very excellent teachers by really thinking about the process of learning to read and write" (cited in Sherman, p. 10).

Professional Development Through Action Research

by Jack McKay

Assumptions

- Change, to be positive and successful, must have the involvement of and ownership by those expected to carry out the change
- The difference between success and failure of educational reform is closely tied to the degree of involvement of teachers and principals
- Lasting change takes place when change strategies involve educators in experiences in which they anticipate success
- Action research is an effective strategy for engaging educators in the change process

What is Action Research?

- Action research takes place when educators initiate and control the research in conjunction with the other day-to-day activities of leading school or classroom
- It is a search for answers to questions relevant to educators' immediate interests, with the primary goal of putting the findings immediately into practice
- It is a cyclical process that involves identifying a general idea or problem, gathering related information, developing an action plan, implementing the plan, evaluating the results, and starting over with a revised idea or problem

Benefits of Action Research

- Action research provides an opportunity for teachers and administrators to explore and experiment with different teaching and leadership methods in a positive and constructive manner.
- Researchers studying the benefits of action research are consistent in their findings that educators grow personally and professionally, gain a sense of empowerment, and assume greater responsibility for the future of their learning and teaching. In particular, studies have found that educators:
  - Become more flexible and creative in their thinking and problem-solving (Fine, 1981; Pine, 1987)
  - Increase networking and collegiality (Little, 1981)
  - Increase reading, discussion, thinking, and assessing ideas from related research with expanded analytical skills (Simmons, 1885)

Conducting Action Research

Watson and Stevenson (1989) found that the working conditions most supportive of action research provide:

- A forum in which to share findings and frustrations
- Opportunities to educate but not to indoctrinate
- Time to rethink, re-examine, and relive the principles that underlie teaching practices
- Colleagues, and particularly the principal, who are supportive of the action research project

Action Research Process

- Identify an issue, area of interest, or idea
- Define the problem or issue related to the area of interest
- Review related information from journal articles, books, or workshops
- Identify the questions to be dealt with or the action research project
- Develop a plan or procedure to answer the question
- Make recommendations based on the results of the project

McKay concludes:

The action research process itself may be more important than the project's results. It is one of the best methods of developing a climate that supports educational reform. Action research is a change process that encourages risk taking, provides a safety net for failure, raises the status of the educator from skilled technician to scholar-practitioner, and, most importantly, improves student academic achievement.

In *Journal of Staff Development, 13*(1), 1992.

Collaboration with Children, Families, and Colleagues

Western culture celebrates the individual. In the education factory, learning is a solo act (Reyes, 1998).

As discussed earlier, the structure of schooling has often resulted in isolation, individualization, and competition. However, our brains have evolved to construct meaning with and through others (Carr & Braunger, 1998). While individual learning still has a place in schooling, our brain prefers cooperation, conversation, conceptualization, and storytelling as ways to learn (Sylvester, 1995). Collaboration with children, colleagues, and families plays a key role in inquiry-based staff development. Including families in discussions about school change can build an inclusive learning community that nurtures diverse perspectives. In conversations that engage differences, neither debate nor consensus is the goal; rather, participants learn from each other, often "leaving wiser and less certain" (Wilson et al., 1996, p. 475).

Visiting other classrooms, with opportunities for follow-up discussion with colleagues and support from peer mentors, can also provide a catalyst for change. At Helen Baller Elementary School in Camas, Washington, Principal Pat Edwards and a number of teachers visited New Zealand for an intensive study of their literacy program. Alona Dickerson, a second-grade teacher, describes her initial skepticism of the idea of changing her traditional skills-based literacy program to a literature-based one: "I was the ditto queen," confesses Dickerson. "I believed it was my job to keep the kids busy while I worked with reading groups. In order for me to change my practice, I needed to be convinced that it was best for kids. 'Show me,' was my attitude."

The visit to New Zealand, which has one of the highest literacy rates in the world, convinced Dickerson to try new methods, but it was her own research that has allayed her fears that children's skills might suffer in a nontraditional classroom. Over the last few years, she has watched children, particularly struggling readers, became successful and competent readers:

> At the end of the day I don't say, "My lecture was great, I did a great job today." I say, "The kids did a really good job today," and they leave saying it to themselves. It takes a lot of time to set up but the rewards are worth it. When we were using only basals, only six children in my first-grade classroom reached the level of *Beth's Bear Hug*, a book at second-grade proficiency. Last year, only six of 26 first-graders *didn't* make it *all the way through* the book. And this year, 15 of 25 second-graders are reading at the fourth-to-sixth-grade level. Only one student, who came at the end of the year, is not reading at grade level (Novick, 1998).

Clearly, teacher observation and research can be powerful tools for informing and improving teaching practices. Good teachers have always built on children's understandings, seeking to understand learning from the child's point of view. Author and teacher Vivian Paley writes about the important role of self-reflection and sensitive attention to children's perspectives:

> The act of teaching became a daily search for the child's point of view, accompanied by the sometimes unwelcome disclosure of my hidden attitudes. The search was what mattered—only later did someone tell me it was research—and it provided an open-ended script from which to observe, interpret, and integrate the living drama of the classroom (1989, p. 7).

Peer Mentoring

Peer coaching provides additional avenues for teachers to share expertise, perspectives, and strategies with each other. Cohen, Talbert, and McLaughlin (1993) point out that "understanding teacher-thinking involves understanding how teachers respond to an ever-changing situation with knowledge that is contextual, interactive, and speculative" (p. 55). For this reason, they advocate that teacher development programs be structured around peer coaching or mentoring in which the relationship between learner and coach is grounded in actual classroom practice. Learning new practices often involves changing old habits that have made teaching comfortable and predictable. Because teachers have to both *learn* new habits and *unlearn* old ones, as one teacher put it, "The comfort is for *not changing*" (Cohen et al., 1993,

p. 93). This teacher contrasts ongoing peer coaching with the typical inservice workshop experience:

> I think you need the support of people with new ideas. The only way we change our teaching is to talk to people who are also changing. And you need time to talk to one another. But not on just a one-time basis, for it's got to be reoccurring. If Suzanne (a teacher educator) had come into my room and done a couple of lessons and said, "Okay, this is the way you teach," I would not have changed. But because this has been ongoing for several years, I really am seeing changes in myself—in the way I think. It is because of that support of talking with her and Carol Miller (a fellow teacher) (p. 93).

Such mentoring relationships in which both teacher and coach view themselves as learners can be set up both inside and outside the school. For example, since the late 1980s, more than 200 Professional Development Schools (PDS) have been created for the purpose of enabling veteran and novice teachers to work together. Many of these partnerships are connected to major reform networks such as the Coalition of Essential Schools and the Comer School Development Program, noted for their innovative and successful practices. In such partnerships, both novice and experienced teachers benefit from the relationship as they engage in discussion, joint inquiry, and action research (Darling-Hammond &McLaughlin, 1995).

The types of networks and partnerships in which schools engage are determined by the changing needs of teachers and children. Darling-Hammond and McLaughlin (1995) suggest: "What does need to be a permanent addition to the policy landscape is an infrastructure or web of professional development activities that provide multiple and ongoing occasions for critical reflection and involves teachers with challenging content" (p. 600).

School/University Partnerships

University/school partnerships can provide ongoing opportunities for teachers to discuss research and practice and to engage in professional development which is grounded in teachers' experiences. In addition, these partnerships can provide opportunities for teacher-educators to teach in ways that encourage inquiry into educational practice. Goodlad (1994) notes, "It is unrealistic to expect teachers to create schools for inquiry when the settings in which they are prepared are rarely reflective" (p. 18). Reciprocal school/ university relationships can help solve the riddle posed by Meier (1995): "We cannot pass on to a new generation that which we do not ourselves possess" (p. 146).

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Including families in discussions about school change can build an inclusive learning community that nurtures diverse perspectives.

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In Oregon, Portland State University, in partnership with three selected local school districts and Education Service Districts, has developed an off-campus masters program for practicing teachers designed as critical inquiry into educational practices and their relationship to school reform. Co-taught by a Portland State University staff member and an instructor from the district office, teachers are encouraged to reflect on their own personal experiences, and issues and concerns regarding their own teaching, in group discussions and in a learning log or journal.

Portfolios with scoring guides provide the major evaluative tool; the masters thesis consists of an action research project conducted by teaching teams. In this way, as Jeanne St. John, the District Staff Development Coordinator who served as instructor for one of the three programs, put it, "You're not just piling up courses and when you get to the end, you're just relieved to get your degree." Instead, the educational program utilizes a constructivist approach in which "teachers reinvent curricular theory for themselves."

Over a two-year period, teachers participating in the program meet more than 40 outcomes in four major content areas, including teaching and learning, inquiry for school improvement/change, social and cultural issues, and interpersonal skills to effect educational change. In order to create an integrated curriculum, all four content areas are woven through all courses. According to St. John, "Every quarter consists of collaboratively inventing a course of study that is unique. It has been exhausting, but is the most exciting staff development I have ever been involved in."

Collaboration with Early Care and Education Providers

The move from preschool to kindergarten is a significant milestone in a child's development. The child's experiences and attitudes that are formed at this crucial point can profoundly affect the child's subsequent school experience. In order to build on children's strengths and experiences, creating successful transitions between the home and school settings is an important first step.

Communication and continuity between preschool, home, and school are themes running through many of the suggestions for improving successful transition to kindergarten. Yet, the transition to public school often results in sharp discontinuities. The young child must adapt to a new culture, a new ecology with different sets of procedures, requirements, and values (Caldwell, 1991). Teachers may have little opportunity to learn about children's experiences prior to entering public school.

Due in part to strongly held beliefs

that the early care and socialization of children is not only the right, but is also the responsibility, of the family, our child care and preschool systems have never been integrated into a comprehensive educational system (Kagan, 1991). Isolated from the educational mainstream, as well as from each other, preschool and kindergarten programs typically engage in little networking (Love, Logue, Trudeau, & Thayer, 1992). Differences in status (teachers versus babysitters) and remuneration (childcare providers often receive poverty-level wages) may mitigate against open communication.

However, collaboration with early care and education providers is an important aspect of providing continuity for children as they make the transition from preschool to kindergarten. In addition, engaging in collaborative professional development activities can be mutually beneficial to elementary school teachers and preschool and childcare providers: Early care providers bring a rich experience with active, engaged learning, collaboration with families, and cultural pluralism (Phillips, 1994); elementary teachers draw on a more formal education in curriculum, instruction, and assessment.

During the last 10 years, the National Association for the Education of Young Children (NAEYC) has engaged in a number of activities to foster professional identity and visibility for the field of early childhood, including publishing guidelines for developmentally appropriate practice (Bredekamp, 1987), and more recently, creating a conceptual framework for the professional development of early childhood educators (NAEYC, 1994). Kagan (1994) notes:

> Professionals in the field of early care and education have begun to take stock of their own situation: fragmentation of services; competition with colleagues for scarce resources, including space, staff, and children; discontinuity and isolation from mainstream services, often including schools; less than optimally effective training and advocacy; and inequitable and unjust compensation and benefits (p. 186).

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"Members did not see me as the font of knowledge, but rather as an effective teacher and as a supporter of their thinking."

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Increased communication between these two distinct realms and opportunities to engage in joint staff development activities can do much to help children and their families build on the positive aspects of their experiences as they make transitions (Regional Educational Laboratories, 1996). In addition, teachers/caregivers for early care and education can apply lessons learned from the struggle of elementary educators for professional status and adequate remuneration to their own efforts to achieve recognition and equity (Phillips, 1994).

Teacher Networks

Networks of teachers can provide ongoing support throughout the school year. Educational reform networks are professional communities that extend beyond the boundaries of institutions. Connected by a common interest and commitment to improving teaching and learning, network members engage in collaborative activities and develop relationships with others who value continued learning, collaboration, and inquiry (Sagmiller, 1998).

Lieberman (1995) cites two examples of teacher networks: the Foxfire Teacher Outreach Network and the Four Seasons Network. The Foxfire Network is an example of a network created by teachers for teachers, having grown out of one English teacher's struggle to interest his students in learning. Initially, teachers were invited to participate in classes over the summer where they learned strategies such as encouraging students to choose their own topics and identify their own learning needs. Currently, more than 20 groups of teachers meet throughout the school year to reflect on practice.

The Four Seasons Network brings together teachers from three reform networks: The Coalition of Essential Schools, the Foxfire Network, and Harvard University's Project Zero. The network is organized by the National Center for Restructuring School and Teaching (NCREST) to support and encourage teacher participation and leadership in the area of assessment (Lieberman, 1995). After initially participating in two summer workshops, participants are provided year-round support through the use of an electronic network. Through ongoing access to new ideas in a supportive community, teachers are able to serve as catalysts for change in their schools and classrooms.

The Mission Valley Consortium. In Montana, three school districts have formed a partnership in order to provide "ongoing professional development that is an integral characteristic of schools as communities of learners." The educational communities involved in the consortium exist within the boundaries of the Flathead Indian Reservation, a confederacy of the Salish, Kootenai, and Pend deOreille tribes. Based on the premise that "conversation, reflection, and continuous improvement" are essential for effective staff development, the consortium offers staff development opportunities that "provide a common direction, yet allow individual building staffs to design professional development plans unique to their own needs and interests" (Mission Valley Consortium, 1995). Parents are invited to participate in individual schools and with the consortium at large.

Viewing curriculum and the curriculum review process as part of a much larger school renewal effort, teams made up of representatives from each school review research in cognition, school culture, leadership, and the change process, as well as trends and issues in the content area. A key responsibility of the consortium coordinator is to ensure that the consortium activities model effective practices. "Participants are constructors of knowledge, spending their time talking, listening, questioning, building rationales, investigating, presenting, reading, being grouped and regrouped," reports Kay Sagmiller, the original consortium coordinator. Participants are enthusiastic about these approaches. "Members did not see me as the font of knowledge, but rather as an effective teacher and as a supporter of their thinking," notes Sagmiller. Teachers reported that seeing and experiencing effective teaching strategies was one of the most important aspects of the consortium activities. One teacher observed, "How do you learn to teach? You learn from watching your teacher" (Sagmiller, 1998. see p. 341). Another commented:

> It's not so much what you said. What was most important was that you created opportunities for people to come to their own conclusions. You gave us the materials and made the activities open-ended so that we could come to our own conclusions, create our own discoveries. By not prescribing the outcomes, you led us to life-long learning, rather than just doing well to satisfy the teacher. That was very powerful (p. 342).

Working in teams, participants design curricular guides based on indepth research into best practices, and develop professional development classes to support teachers in their implementation of new curriculum. Over the past year, review teams have developed a social studies curriculum which is sensitive to their bicultural community, and developed a five-year plan to use technology to improve learning and teaching.

Study groups, workshops, and courses for credit sponsored by the consortium have included the following areas of study: Assessment; Children and Society; Cognition; Cooperative Learning; Developmentally Appropriate Curriculum; Inclusion; Integration of Curriculum; Renewal and Leadership; Teaching and Learning; and Technology. Not only have standardized test scores improved, but, as the consortium's World Wide Web page notes, "Most importantly, we believe we are making a difference for children." According to Sagmiller:

> Meaningful and thoughtful change occurs over time through sustained effort; at times, a good nudge helps too. Our consortium acts as a "positive persistent disturbance" in the process of change (Costa & Garmston, 1994). Despite the many challenges of improving school, we are seeing our faculties move toward a more constructivist approach to teaching and learning. Without a doubt, all of us have increased our conversation about curriculum, learning, and children, and we believe that it is through this increased conversation and collaboration that significant and sustaining change will occur (http://www.ronan.net/~mvc).

Cherry Valley Elementary School, Polson, Montana: Putting It All Together

Located on the southern shores of Flathead Lake, the largest freshwater lake west of the Mississippi, and on the outskirts of the Flathead Indian Reservation, Cherry Valley Elementary School serves a culturally and economically diverse student body. Increasing numbers of children come from families who live at or below the poverty line, with almost 60 percent qualifying for free or reduced lunch. In addition, a large proportion of Native American children challenges the predominantly white, middle class teaching staff to examine personal values, in order to provide a school environment that reduces cultural discontinuities and builds on the strengths of all children.

Ten years ago, with the leadership of Principal Elaine Meeks, staff at Cherry Valley began a school change process with the goal of reaching building-wide consensus on developmentally appropriate practice. Over the years, staff have deepened their understanding of how children learn and develop, improved student outcomes, and created an inclusive learning community inside and outside of school.

Changing Beliefs and Practices

"If only the parents would." When Meeks became principal at Cherry Valley, an "assessment of the current reality" revealed a daunting list of challenges: high poverty, tensions within a bicultural community, lack of family involvement, low reading scores, high rates of retention, a sense of low morale expressed by staff, and, at times, a blaming attitude. "If only the parents would ..." was a phrase often heard in the teachers' lounge.

Years of experience as a teacher had convinced Meeks that staff development was the key to positive change, and that effective professional development becomes a culture-building process. To create a school culture that supports children's learning, it was clear to Meeks that two areas needed to be addressed simultaneously: beliefs and structures. It would not be enough to come to consensus on beliefs about teaching and learning; the school would have to develop the structures to enable teachers and all staff to bring about congruence between their beliefs and teaching practices. Over the years, professional development activities at Cherry Valley have evolved to focus on four major goals:

- A consistent and unified theory of learning
- Continuity of educational practice with this theory
- Data or results-driven evaluation (student performance, family involvement)
- An expanded concept of a learning community to include families, community members, and all staff

Learning as transformation. The change that Meeks envisioned was and continues to be a slow process; the primary approach to staff development involves individual and collective inquiry into teaching practices. Working in partnership with staff, Meeks originally spent a lot of time observing and questioning. For example, she might ask, "Why did you group the children the way you did?" In this way, teachers were asked to articulate their own theories of practices, moving from, "That's the way we've always done it," to more indepth study and research into their practices.

Meeks and most of the staff at Cherry Valley have been trained in cognitive coaching, defined by Costa and Garmston (1994) as "a nonjudgmental process—built around a planning conference, observation, and a reflecting conference" (p. 2). The three goals of cognitive coaching are trust, learning, and holonomy, a term defined by the au thors as: individuals acting autono mously while simultaneously acting interdependently with the group. "This process has contributed to a cultural transformation that supports reflective practice," says Meeks.

Teachers responded positively to this approach and both teachers and students increasingly engaged in experiential learning activities centered on themes, including multicultural topics. Teachers valued these educational explorations and formed study groups to discuss articles and books that supported their efforts to change to more meaning-focused approaches to reading and writing. From the beginning, weekly early-release time provided time for collaboration and grade-level planning; Federal Title VI monies provide additional release time, enabling teachers to visit and observe in neighboring schools.

This year, a federal Title VII bilingual, Limited English Proficient grant funds two half-time teacher mentors, who teach half-time in their own classrooms, as part of the regular teaching staff, and work with teachers for half the day. With the goal of raising the literacy competency of Native American children, mentors work with teachers to strengthen everyone's understanding about how all children become literate. Mentors Doug Crosby, a first-grade teacher and Debbie Hogenson, a fourth-grade teacher, were chosen for their strong background in literacy and in bilingual, multicultural education. They work with eight teachers each, observing and meeting with each teacher once a week, and Meeks also meets with the mentors weekly.

Explains Meeks:

> This is job-embedded, teacher-to-teacher—it's a collegial, one-on-one coaching relationship. Because the mentors have no evaluative role, and build on teachers' strengths, teachers feel free to take risks. Teachers are excited, and see it as a support, not a threat to their professional growth. It's very powerful. But peer mentoring can be threatening if it is introduced too early in a school change process, and when it is perceived by teachers as a top-down mandate. Building an inclusive school culture that supports inquiry and reflectivity is essential to its success (Personal Communication, April 26, 1998).

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... It was clear to Meeks that two areas needed to be addressed simultaneously: beliefs and structures.

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Utilizing a team approach. A NWREL-sponsored summer institute in 1992 ("Building Equity in Early Literacy: A Team Approach"), attended by a self-selected team of teachers, proved to be a catalyst for adopting a team process as a basis for decisionmaking, which staff view as crucial for building a schoolwide community. Avoiding the pitfalls of the "one-shot workshop," in which effects on enhancing best practices are often minimal, schools participating in the project met periodically at regional professional meetings to make presentations and reflect on their experience with the team approach to literacy program improvement.

Central to the experience was the collaborative development by each school team of a School Literacy Improvement Plan. Tailored to their school's literacy needs and specifying literacy program improvement goals and support strategies, these plans were introduced to the rest of the school staff for discussion and revision. To ensure that all teachers would be included in the school improvement vision, they expanded the Summer Institute Team to a Literacy Leadership Team. Although membership is voluntary, Meeks reports that everyone wants to be part of the team; over the years, the team has included almost every teacher in the school and has been expanded to include parents and support staff.

By the spring of 1993, the team had developed, with staff input, the "Primary Education Philosophy." It is revisited each year, a process described by Meeks as "a wonderful experience that reflects the power of the school as a whole." The philosophy statement emphasizes the importance of shared responsibility for creating a positive environment for children's learning and the importance of active engagement and social interaction in children's construction of understanding. After years of these discussions, staff members are able to articulate a number of shared beliefs, summarized by Meeks:

1. Each member of the learning community can learn and perform at high levels.
2. Learning takes place in a social context—we take responsibility for our own learning and support each other's learning.
3. Each of us can make a difference. There is a high sense of efficacy.

4. Equity is a function of opportunity. Children do not have deficits, but lack of opportunities.
5. We are responsible for engaging in dialogue (sustained, collective inquiry) about what and how we teach and the impact on student learning.
6. Students learn best in an educational environment that is physically and psychologically safe, and through educational experiences that have continuity and reflect a congruence with philosophy and beliefs.

Theory in practice. According to Meeks, creating a positive school environment, as seen through the eyes of *each* child, is essential to convey the school's overriding belief: "*Every* child counts." Fostering cooperation, rather than competition, among children and among staff creates a climate in which everyone is encouraged to help solve problems, share expertise, listen respectfully to one another, and resolve conflict openly and honestly. Staff members consider this emphasis on teamwork and community to be a crucial element in the school's continually evolving interpretation and implementation of developmentally appropriate practices and culturally responsive teaching.

An important step in the effort to reach consensus on developmentally appropriate practice was the team's development of a literacy program survey during the 1994-95 school year. Teachers' detailed responses were used as a basis for developing the *Literacy Program Guidelines for Cherry Valley School*. To ensure consensus, the document, like the earlier statements, was sent in draft form to all teachers and revised to include their feedback. The guidelines stress the interrelationship of oral language, listening, reading, and writing and articulate the overall goal of the literacy program: "To ensure that all children become able readers, writers, speakers, and listeners and are critical thinkers who can take responsibility for and direct their own lifetime of learning."

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... A commitment to continuous improvement means that it is second nature for teachers to continually assess what they are doing, why they are doing it, and how they can more effectively help children learn.

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Fostering resiliency. An emphasis on viewing the child holistically, within the context of the family and community, combined with a philosophy of building partnerships with families, has enhanced family participation in learning activities and helped establish reciprocally supportive relationships. While not all families agree with all of Cherry Valley's educational practices, engaging parents in a wide array of schoolwide activities helps break down barriers. The philosophy of including—rather than marginalizing—parents who have concerns ensures that conflict is dealt with in a positive way. "Unconsciously," Meeks says, "we have been creating the conditions identified by Bonnie Benard (1993) that foster resiliency in children, and we have extended these conditions to staff and families: caring and support, positive expectations, and ongoing opportunities for participation."

In 1993, the Polson Partnership Project, a school-based child-and-family support program, was established. Designed to "ensure that all children have a positive, successful school experience and to link families with needed services," the program is directed by a working team which includes: the principal, classroom teachers, the project director, the family enrichment coordinator, child and family mentors, the school counselor, representatives of the Native American parent committee and the PTA, and the district superintendent. The mission of the project is to define and create resiliency-based collaborations that build on family strengths, cultivate healthy attributes, and create a caregiving environment in the school. "The result," says Project Director Co Carew, "is a protective shield that helps ensure school suc cess for all students."

To create and maintain these conditions requires ongoing discussion about how best to meet the needs of children and families. Through many opportunities for participation in meaningful activities, staff at Cherry Valley avoid "burnout" and the danger of having continuous improvement turn into what Hargreaves (1995) described as "*interminable* improvement—where no one values heritage and such vital ingredients of schooling as tradition, continuity, and consolidation" (p. 18). Instead, a commitment to continuous improvement means that it is second nature for teachers to continually assess what they are doing, why they are doing it, and how they can more effectively help children learn. Collectively, staff have studied numerous topics that influence children's learning, including poverty, authentic assessment, multiage grouping, early literacy learning, family literacy, and the history of Native American schooling.

In addition to school-wide discussion and inquiry, since 1995, staff have benefited from participation in a larger learning community through participation in the Mission Valley Consortium, a partnership between three neighboring school districts (see pages 22-23 in this document). The consortium has provided opportunities to network with other schools, to review and develop curriculum, and to present and attend workshops. Through opportunities to learn about practices in other schools and classrooms and to engage in critical inquiry together, the partnership has done much to break

down barriers between the schools and to provide continuity for children as they transition to other schools in the district.

Conclusion

Cherry Valley has implemented a comprehensive approach to staff development that includes a number of critical elements. First and foremost, they have created and, in Meeks' words, "plan to continue to develop a culture of inquiry and reflectivity focused on teaching, learning, and success for all." In this inclusive environment, the following practices play important roles:

- Individual and collective inquiry into teaching practices provides the foundation for changing beliefs and practices
- Time is provided for collaboration, planning, reading, discussion, visiting other schools, and peer mentoring
- A team process is utilized as the basis for decisionmaking
- Participation in a professional development network (Mission Valley Consortium) that extends beyond the boundaries of the school helps ensure an ongoing exchange of ideas and expertise

All of these activities play a part in maintaining a climate that supports resiliency for all, and keeps children at the center of school reform. Are the philosophical approach and the strategies used at Cherry Valley applicable to change efforts in other schools? Elaine Meeks, a recent recipient of the National Milken Education Award, believes

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"Creating a positive school environment, as seen through the eyes of each child, is essential to convey the school's overriding belief: 'Every child counts.'"

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that they are. Key to Cherry Valley's experience has been the sustained focus and continuity of leadership over a ten-year period. "The idea that principals should move to different schools every few years must change," says Meeks, adding:

Outside change agents are not what is needed. Effective staff development and school reform are not just a matter of changing teaching practices. What we are doing is changing an entire culture. We need to reconceptualize the role of the building principal as an effective change agent, one who leads through example, and helps to create the conditions that support continuous improvement. Sustaining this environment requires constant monitoring of the match between what we way we believe and what we actually do. If we really believe it is the children's school, then we must keep their needs at the center. We can say we believe anything but what we do had better illuminate what we believe. We have to keep taking it back to our philosophy—keep that out in front of us. This is key.

Conclusion

Although schools have traditionally been places where teachers engage in direct instruction of 30 children who work quietly at their seats, this model of "teaching as telling" is giving way to an approach based on a view of children as actively engaged in constructing their own understandings through interactions with the social and physical environment. In order to change teaching practices, teachers often have to change deeply held beliefs about how children learn and develop. "The key," according to Caine and Caine (1997), "is to examine the cement that binds our opinions to us" (p. 251).

But the examination of teaching practices can't stop at the belief level. Advises Northwest educator Kay Sagmiller, "Making our unconscious beliefs conscious is the first step. Then we have to actively work to increase the congruence between what we *say* we believe and what we are *actually* doing. This is not a one-time event —it is an ongoing process." In this process, the principal plays a crucial role. Sagmiller explains:

> Traditionally, principals have been thought of as managers; they have been trained to think in terms of "time to be allocated," and classrooms to be assigned. In this role, they often have thought of teachers and children as "things to man age," rather than as rich sources of knowledge and expertise. In a community of learners, what counts are relationships, dialogue, facilitating joint inquiry, and building a climate of trust (personal communication, November 21, 1998).

"We need to reconceptualize the role of the building principal as an effective change agent, one who leads through example, and helps to create the conditions that support continuous improvement."
—Elaine Meeks, Principal,
Cherry Valley Elementary School,
Polson, Montana

Environments that support learning by all have been variously described as "learning organizations" (Senge, 1990), "a community of learners" (Sergiovanni, 1996), and "professional communities" (Darling-Hammond & McLaughlin, 1995). Characteristics of these environments include:

- Supportive and shared leadership
- Members who have a collective commitment to and shared responsibility for the goals of the organization
- A collaborative, non-isolatory work environment
- People who are in a continual process of learning and reflecting (Sagmiller, 1998)

In order to create and maintain such supportive environments, not only roles and relationships, but policies will have to change. For example, the practice of moving principals and teachers every few years is inconsistent with the goal of creating a climate of respect and interdependence. As a Northwest principal put it, "That policy was OK when all we did was push paper and count paper clips. But thankfully those days are over." Finally, time, the biggest and most intractable barrier to effective staff development, will have to be made available. If schools are to become exciting places for children to grow and learn, then teachers and principals, like children, need opportunities to become actively involved in their own learning process.

Effective professional development, then, is moving away from the model in which an "expert" transmits knowledge to teachers (McGregor, et al., 1998). Rather, staff development is grounded in the questions and concerns of those who work closely with children, and, in Little's words (1993), is "intricately interwoven with the daily life of the classroom" (p. 137). In this approach to professional development, teachers are viewed not as technicians, but as intellectuals (Giroux, 1988), teacher leaders, peer coaches, and teacher researchers (Lieberman, 1995). Ample opportunities for teachers and principals to engage in reflective study of teaching practices, experimentation, collaborative problem solving, and peer mentoring in a supportive climate are essential.

Glossary

Action research. Action research is an approach to professional development and improved student learning in which teachers systematically reflect on their work and make changes in their practice. Feldman (1995) and others describe action research as a process, a unique orientation toward inquiry. Steps in the cyclical process include the following: identifying a general idea or problem, gathering related information, developing an action plan, implementing the plan, evaluating the results, and starting over with a revised idea or problem (McKay, 1992). At each stage, there is considerable self-reflection, collaborative reflection, and dialogue. The research methods are selected to respond to the particular question that is proposed. It is more common to see qualitative methods, with an emphasis on discovery and interpretation, than to see hypothesis testing, correlation studies, or other kinds of statistical analysis (Boriga & Schuler, 1997).

Assisted discovery. Instead of advocating either discovery learning in its purest form or didactic teaching, the Vygotskian approach to education is one of *assisted discovery* (Berk & Winsler, 1995). Teachers do not wait for readiness to happen; instead, teachers assist children to reach higher levels of development and learning by orchestrating their engagement in challenging, interactive experiences and activities (Caine & Caine, 1990).

Behaviorism. Based on the theories of J.B. Watson and B.F. Skinner, a behaviorist approach to education focuses on observable, measurable behaviors, which are produced by the manipulation of antecedents and consequences. Implicit in this view is the image of the learner as passive; learning takes place through the formation of stimulus-response bonds, which are strengthened through repetition and reinforcement. Based on these assumptions, skills are regarded as the sum of their component parts, often taught directly and practiced in isolation from their use (frequently in exercises presented in workbooks) before being brought back to the whole (Crawford, 1995). Teaching is highly structured, sequentially organized, and teacher-directed.

Constructivist theory. Constructivist theory is a set of beliefs about the nature of knowledge, development, learning, and teaching. It is a belief that we construct our own understandings of the world by reflecting upon our interactions with objects and ideas. Learning occurs when we take new experiences and synthesize them into what we already know. At different developmental levels, we are able to understand increasingly complex relationships. The original research that supports the constructivist view was conducted by Swiss psychologist Jean Piaget, over a period of several decades (1920s-1980s). His research was based on observations and conversations with children as they explored objects, ideas, and changes that occurred in their environments (Briggs, Folkers, & Johnson, 1996, p. 5).

Metacognition. When learning is viewed as understanding, an important element of teaching is to help children become aware of how they go about their thinking, learning, and remembering (metacognition). Key to a metacognitive approach is an active, problem-solving approach to learning, in which the learner is able to use a range of flexible strategies.

Multiple intelligences. Although verbal/linguistic intelligence and logical/mathematical intelligence have dominated the traditional pedagogy of western societies, Howard Gardner of Harvard University suggests that there are at least five additional human intelligences, including spatial, musical, kinesthetic, interpersonal, and intrapersonal. Proponents of an educational approach that encourages the development of multiple intelligences argue that when students are able to specialize and excel in at least one area, discipline problems are reduced, and academic and cooperative learning skills improve. Because each child learns the subject matter in a variety of different ways, chances of understanding and retaining the information are multiplied (Campbell, 1995).

Psychometrics. Psychometrics refers to the use of quantitative devices to assess mental data, such as intelligence or personality. A psychometric philosophy of education posits that the learner possesses measurable abilities; individual differences in performance are regarded as reflecting differences in *amount* of ability (Elkind, 1991). In a psychometric approach, education is seen as imparting quantifiable knowledge and skills which can be measured objectively on standardized tests. Answers are either right or wrong, and subjects are autonomous, with each discipline possessing its own scope and sequence of skills.

Scaffolding. A term introduced by Wood, Bruner, and Ross (1976), scaffolding is defined as a flexible way to provide temporary, adjustable support to children's efforts that is sensitively attuned to their needs. More support is offered when a task is new; less is provided as the child's competence increases, thereby fostering the child's autonomy and independent mastery (Berk & Winsler, 1995).

Transactional model of learning. In the transactional model, learning is an active process, in which the learner constructs his or her knowledge through interaction or transaction with the social and physical environment. Because the learner is regarded as intrinsically motivated and self-directed, effective teaching capitalizes on the child's motivation to explore, experiment, and to make sense of his or her experience. Proponents of a transactional approach are committed to teaching *for* understanding and learning *as* understanding.

Zone of Proximal Development (ZPD). A term coined by Vygotsky, it refers to the distance between what a learner can accomplish during independent problem solving and what he or she can accomplish with the help of an adult or more competent member of the culture. The ZPD is the hypothetical, dynamic region where learning and development take place (Berk & Winsler, 1995).

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Appendix A

District Staff Development Activities Survey

You are being asked to complete the following survey about the staff development efforts in your school district. We are interested in the types of staff development activities with which you have been involved, your perceptions of the importance of these activities, and the kinds of staff development activities you would like to see in the future. The survey should take only 10 minutes of your time to complete. Thank you in advance for sharing your thoughts, ideas, and knowledge of staff development in your district.

First, we would like to find out a little bit about you. Please circle the number of the response category that corresponds with your response for each item below.

1. District: (25 Districts) State: AK, ID, MT, OR, WA

2. Gender
   1=Male (12) 2=Female (86)

3. Your highest level of education

1=BA/BS	2=Some graduate coursework	3=MA/MS	4=Ph.D./Ed.D.
(8)	(40)	(44)	(5)

4. How many years of experience do you have in education? 1-36 years (please round the number of years to the nearest whole number). mean=17.81/median=18.00

5. What type of position do you currently hold in your district? (Total of 98 responses)
   1=Classroom teacher (76)
   2=Building principal (13)
   3=District personnel (e.g., curriculum coordinator, staff development coordinator) (9)

Now we would like to ask you some questions about staff development in your district. Please fill in the blank or circle the number of the response category that best corresponds to your response.

6. How many days per academic calendar year are provided by your district for staff to engage in staff development activities? 0-12 days each year. mean=5.18/median=5.00

7. Of the days you indicated in Question 6 above, how many days do you have the opportunity to *choose* the type of staff development activity in which you participate? 0-12 days mean=2.22/median=2.00

8. On a scale of 1 to 5, with 1 being the lowest and 5 the highest, how important do you consider staff development?

	(1)	(0)	(6)	(20)	(71)	mean=4.63/median=5.00
Not at all important	1	2	3	4	5	Very important

9. For each topic listed below, please place a check in the box if you have been provided staff development in this area during the past academic year. If you have not been provided staff development on this topic, leave the box blank.

1. Cultural Diversity ☐ (20)
2. Family/School Partnerships ☐ (18)
3. Community Partnerships ☐ (10)
4. Early Literacy ☐ (34)
5. Authentic Assessment ☐ (34)
6. Brain Research ☐ (13)
7. Multiage Grouping ☐ (11)
8. AU Classroom Management ☐ (28)
9. Cooperative Learning ☐ (17)
10. Constructivist Approach to Mathematics ☐ (21)
11. Conflict Resolution/Violence Prevention ☐ (32)
12. Poverty/Homelessness ☐ (2)
13. Child Abuse and Neglect ☐ (16)
14. Child Development ☐ (10)
15. Technology ☐ (68)
16. Other (please specify) Math ☐ (5)
17. Other (please specify) Curriculum ☐ (5)

10. Are there topics that you would like offered as part of staff development efforts that are currently not available?

1=Yes, there are topics that I would like to see offered that are not currently available. (53)

2=No, the topics currently offered are sufficient and new topics are not needed (skip to Question 12). (33)

11. If you answered Yes to Question 10 above, what topics would you like to see offered that are not currently available?

1. Brain Research (11)
2. All Classroom Management (9)
3. Conflict Resolution/Violence Prevention (8)
4. Technology, Authentic Assessment, Family/School Partnerships (6)

12. Please indicate how often teachers are included in the following district-provided staff development activities by circling the number that corresponds to your response.

	Never	Sometimes	Often	Always	mean/median
1. Planning training and workshops	1	2	3	4	2.55/2.50
2. Selection of training and workshops	1	2	3	4	2.45/2.00
3. Presentation of training and workshops	1	2	3	4	2.42/2.00
4. Evaluation of training and workshops	1	2	3	4	2.98/3.00

13. Please indicate how often the following activities are provided by your district by circling the number that corresponds to your response.

	Never	Sometimes	Often	Always	mean/median
1. Opportunities for participation in professional development activities which include:					
a. Principals	1	2	3	4	2.84/3.00
b. Classified staff	1	2	3	4	2.39/2.00
c. Counselors	1	2	3	4	2.52/3.00
d. Parents	1	2	3	4	1.98/2.00
e. School psychologists	1	2	3	4	2.10/2.00
f. Administrators	1	2	3	4	2.41/2.00
2 Opportunities for undergraduate credit for professionals.	1	2	3	4	2.24/2.00
3. Opportunities for graduate credit for teachers.	1	2	3	4	2.40/2.00
4. School staff time provided for collaborative study of teaching practices.	1	2	3	4	1.92/2.00
5. School staff time provided for collaborative planning and problem solving.	1	2	3	4	1.98/2.00
6. Opportunities for peer coaching.	1	2	3	4	1.71/2.00
7. Opportunities for all staff to learn about the same topics at the same time.	1	2	3	4	2.34/2.00
8. Opportunities for school/university collaboration.	1	2	3	4	1.81/2.00
9. Inclusion of Head Start staff in district staff development activities.	1	2	3	4	1.31/1.00
10. Inclusion of other preschool providers in district staff development activities.	1	2	3	14	1.41/1.00

14. On a scale of 1 to 5, with 1 being the lowest and 5 the highest, how important do you consider the inclusion of preschool providers in district staff development activities?

Not at all important	1	2	3	4	5	Very important
	(7)	(21)	(21)	(21)	(28)	mean=3.43/median=3.50

15. If preschool providers do not currently participate in district staff development activities, what do you consider the barriers to their inclusion in such activities?

1. _____
2. _____
3. _____

16. On a scale of 1 to 5, with1 being the lowest and 5 being the highest, please indicate your level of satisfaction with each item in the following list by circling the number of the response category that corresponds to your response.

	Not at all Satisfied	Somewhat not Satisfied	Neither Satisfied nor Dissatisfied	Somewhat Satisfied	Very Satisfied
1. The degree to which professional development is based on school community members' needs, goals, and interests.	1 (15)	2 (11)	3 (15)	4 (44)	5 (13)
	mean=3.30/median=4.00				
2. The degree to which there is a clear, coherent plan that guides professional development over time.	1 (23)	2 (20)	3 (12)	4 (32)	5 (11)
	mean=2.88/median=3.00				
3. The degree to which professional development is aligned with state reform efforts.	1 (10)	2 (11)	3 (18)	4 (37)	5 (21)
	mean=3.49/median=4.00				
4. The degree to which participants have access to follow-up activities to help implement new practices.	1 (18)	2 (20)	3 (25)	4 (31)	5 (4)
	mean=2.83/median=3.00				
5. Overall satisfaction with professional development activities.	1 (14)	2 (13)	3 (22)	4 (42)	5 (7)
	mean=3.15/median=3.50				

17. What do you consider to be the major challenges in providing opportunities for staff development?

_____

_____

18. What do you consider to be the major successes in providing opportunities for staff development?

_____

_____

THANK YOU very much for your time in completing this survey of the staff development activities in your school district. The results of the survey will be tabulated and analyzed with a summary mailed to participating principals and district personnel in the winter of 1998.

Appendix B

Question 12. Please indicate how often teachers are included in the following district-provided staff development activities by circling the number that corresponds to your response.

Teachers

How often teachers are included in:	Never[1]	Sometimes[2]	Often[3]	Always[4]	Mean	Median
Planning training/workshops	15.3%	41.7%	27.8%	15.3%	2.43	2.00
Selection of training/workshops	16.7%	45.8%	27.8%	9.7%	2.31	2.00
Presentation of training/workshops	15.1%	49.3%	24.7%	11.0%	2.32	2.00
Evaluation of training/workshops	11.1%	26.4%	26.4%	36.1%	2.88	2.00

Principals

How often teachers are included in:	Never[1]	Sometimes[2]	Often[3]	Always[4]	Mean	Median
Planning training/workshops	0%	46.2%	38.5%	15.4%	2.69	3.00
Selection of training/workshops	7.7%	23.1%	69.2%	0%	2.62	3.00
Presentation of training/workshops	0%	46.2%	53.8%	0%	2.54	3.00
Evaluation of training/workshops	7.7%	7.7%	38.5%	46.2%	3.23	3.00

District Personnel

How often teachers are included in:	Never[1]	Sometimes[2]	Often[3]	Always[4]	Mean	Median
Planning training/workshops	0%	0%	66.7%	33.3%	3.33	3.00
Selection of training/workshops	0%	0%	66.7%	33.3%	3.33	3.00
Presentation of training/workshops	0%	22.2%	44.4%	33.3%	3.11	3.00
Evaluation of training/workshops	0%	11.1%	33.3%	55.6%	3.44	4.00

All

How often teachers are included in:	Never[1]	Sometimes[2]	Often[3]	Always[4]	Mean	Median
Planning training/workshops	11.7%	38.3%	33.0%	17.0%	2.55	2.50
Selection of training/workshops	13.8%	38.3%	37.2%	10.6%	2.45	2.00
Presentation of training/workshops	11.6%	46.3%	30.5%	11.6%	2.42	2.00
Evaluation of training/workshops	9.6%	22.3%	28.7%	39.4%	2.98	3.00

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