PROFESSIONAL LEARNING IN THE LEARNING PROFESSION:

A Status Report on Teacher Development in the United States and Abroad

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NATIONAL STAFF DEVELOPMENT COUNCIL

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Foreword

Standards-Based Reform 2.0

By Gov. James B. Hunt, Jr.

Decades of standards-based school reform have helped identify what students need to know and be able to do. In the words of former IBM CEO Louis V. Gerstner, Jr., these efforts were meant to "drive standards [and accountability] through the schoolhouse door." But educators and policymakers are recognizing that it is time for Standards-Based Reform 2.0. We need to place a greater priority on strengthening the capacity of educators and building learning communities to deliver higher standards for every child.

No matter what states and districts do to bolster the education workforce, they will need to do more and better with the talent they have.

Enabling educational systems to achieve on a wide scale the kind of teaching that has a substantial impact on student learning requires much more intensive and effective professional learning than has traditionally been available. If we want all young people to possess the higher-order thinking skills they need to succeed in the 21st century, we need educators who possess higher-order teaching skills and deep content knowledge.

There are many ways to improve the quality and performance of the nation's education workforce, and many are being tested. States and districts have restructured the staffs at thousands of failing schools. They are seeking to lure better talent into classrooms by recruiting career changers and liberal-arts graduates with rich content knowledge and a willingness to teach. They are revamping their personnel departments, launching new teacher academies, and working to exert greater control over who will teach and in which schools. But these efforts, essential as they are, influence only a small portion of educators. And no matter what states and districts do to bolster the education workforce, they will need to do more and better with the talent they have. This will require a more effective and systematic approach to supporting, developing, and mobilizing the more than three million educators who will teach in and lead our schools.

Other fields, from medicine and management to the military, do a far better job of providing ongoing learning opportunities and support for their professionals. But as this report shows, in education, professional learning in its current state is poorly conceived and deeply flawed. Teachers lack time and opportunities to view each other's classrooms, learn from mentors, and work collaboratively. The support and training they receive is episodic, myopic, and often meaningless. Meanwhile, states and districts are spending millions of dollars on academic courses disconnected from the realities of classrooms, but little on helping educators find solutions to the day-to-day challenges they face. It is time for our education workforce to engage in learning the way other professionals do—continually, collaboratively, and on the job—to address common problems and crucial challenges where they work.

The United States is squandering a significant opportunity to leverage improvements in teacher knowledge to improve school and student performance. Other nations, our competitors, have made support for teachers and teacher learning a top priority with significant results. In these countries, students learn and achieve more. Teachers stay in the field longer and are more satisfied with their work. Educators take on even more responsibility for improving what happens in their buildings.

This report identifies what research says works and what states and other nations have done to develop that skilled workforce. It tells us what should happen and can lead us to real-world benchmarks against which we will measure progress. Not least, this study is a major first step toward developing a comprehensive set of policies and practices that help better organize the learning of adults in schools to make the hard work of educators more productive.

As studies have shown, the steps we take to improve teacher skills and knowledge will pay off in better results for students. But I believe that developing more systematic approaches to professional learning will have added benefits. I know of no better way to transform the outmoded factory model of school organization and the egg-crate isolation of teachers than to give teachers the tools and support they need and greater responsibility over what happens in their buildings to ensure that all students achieve. This is an effort that will require—and is worthy of—another decade of school reform.

Preface

Creating Effective Professional Learning Systems to Bolster Teaching Quality and Student Achievement

By Stephanie Hirsh

For many years Title I of the Elementary and Secondary Education Act has required low-performing schools to set aside ten percent of their allocations for schoolwide professional development. Title II funding has resulted in the allocation of more than three billion dollars to professional development. More than 40 states have adopted standards calling for effective professional development for all educators accountable for results in student learning. And several national studies on what distinguishes high-performing, high-poverty schools from their lower-performing counterparts consistently identify effective schoolwide collaborative professional learning as critical to the school's success. And yet as a nation we have failed to leverage this support and these examples to ensure that every educator and every student benefits from highly effective professional learning.

Improving professional learning for educators is a crucial step in transforming schools and improving academic achievement. To meet federal requirements and public expectations for school and student performance, the nation needs to bolster teacher skills and knowledge to ensure that every teacher is able to teach increasingly diverse learners, knowledgeable about student learning, competent in complex core academic content, and skillful at the craft of teaching.

To accomplish this, schools—with the support of school systems and state departments of education—need to make sure that professional learning is planned and organized to engage all teachers regularly and to benefit all students. This requires high-quality, sustained professional learning throughout the school year, at every grade level and in every subject.

In an effective professional learning system, school leaders learn from experts, mentors, and their peers about how to become true instructional leaders. They work with staff members to create the culture, structures, and dispositions for continuous professional learning and create pressure and support to help teachers continuously improve by better understanding students' learning needs, making data-driven decisions regarding content and pedagogy, and assessing students' learning within a framework of high expectations.

Teachers meet on a regular schedule in learning teams organized by grade-level or content-area assignments and share responsibility for their students' success. Learning teams follow a cycle of continuous improvement that begins with examining student data to determine the areas of greatest student need, pinpointing areas where additional educator learning is necessary, identifying and creating learning experiences to address these adult needs, developing powerful lessons and assessments, applying new strategies in the classroom, refining new learning into more powerful lessons and assessments, reflecting on the impact on student learning, and repeating the cycle with new goals.

The system at the school level is supported by state and federal policies that encourage regular teacher collaboration and professional learning closely tied with school improvement priorities and provides needed resources to give teachers time and opportunity to make this happen. Many states, including Kansas, Ohio, and Oregon most recently, have adopted standards to demonstrate expectations that all teachers engage in effective professional development. These states are among the 40 that have adopted or adapted NSDC's *Standards for Staff Development* written in conjunction with 17 other professional associations. Some states, such as Florida, Georgia, and Kansas have implemented statewide assessment processes to determine the degree to which teachers experience effective professional development and student learning is impacted. Other states, notably Arkansas, Pennsylvania, and New Jersey, invest in capacity-building strategies providing training and resources for principals and teacher leaders. Ohio enacted sweeping

reforms of its professional development policy. Stand-out high-poverty school systems like Long Beach (Calif.), Hamilton County (Tenn.), and Carmen-Ainsworth (Mich.) have made collaborative learning a priority to ensure that every educator and every student learns every day.

As this report shows, such an approach to professional learning has become the norm in many countries that are our competitors, but is the exception here. The report reveals that much of the professional development available today focuses on educators' academic content knowledge, and pays growing attention to mentoring support, particularly for new teachers. But, overall, the kind of high-intensity, job-embedded collaborative learning that is most effective is not a common feature of professional development across most states, districts, and schools in the United States.

Overall, the kind of high-intensity, job-embedded collaborative learning that is most effective is not a common feature of professional development across most states, districts, and schools in the United States.

The purpose of this report is to provide policymakers, researchers, and school leaders with a teacher-development research base that can lead to powerful professional learning, instructional improvement, and student learning. By examining information about the nature of professional development opportunities currently available to teachers across the United States and in a variety of contexts, education leaders and policymakers can begin both to evaluate the needs of the systems in which teachers learn and do their work and to consider how teachers' learning opportunities can be further supported.

This volume—prepared by Linda Darling-Hammond, Ruth Chung Wei, Alethea Andree, Nikole Richardson, and Stelios Orphanos of Stanford University—summarizes a more in-depth research report, the complete version of which can be found at www.nsdc.org/stateproflearning.cfm and at http://www.srnleads.org. The report is part of a larger study, *The Status of Professional Development in the United States*, a multi-year research initiative. Data and findings drawn from this study will be used to establish benchmarks for assessing progress in professional development over time.

Future reports will:

- Address the degree to which educators experience professional development linked to improved professional practice and student learning, along with state-by-state comparison data, and
- Examine policies and contexts that support implementation of more effective professional learning tied to student learning in states and school systems.

Taken as a whole, this work will provide the most comprehensive picture and far-reaching analysis of professional learning that has ever been conducted in the United States. The overall research effort has been supported by the Bill and Melinda Gates Foundation, MetLife Foundation, NSDC, and the Wallace Foundation.

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Key Findings

This report examines what research has revealed about professional learning that improves teachers' practice and student learning. It describes the relative availability of such opportunities in the United States as well as in high-achieving nations around the world, which have been making substantial and sustained investments in professional learning for teachers over the last two decades. Among the findings:

- **Sustained and intensive professional development for teachers is related to student achievement gains.** While this insight is hopeful, it derives from a limited pool of rigorous studies on specific kinds of professional development.
- **Collaborative approaches to professional learning can promote school change that extends beyond individual classrooms.** When all teachers in a school learn together, all students in the school benefit.
- **Effective professional development is intensive, ongoing, and connected to practice; focuses on the teaching and learning of specific academic content; is connected to other school initiatives; and builds strong working relationships among teachers.** However, most teachers in the United States do not have access to professional development that uniformly meets all these criteria.
- **Public schools in the United States have begun to recognize and respond to the need to provide support for new teachers.** Nationally, in 2003-04, more than two-thirds (68 percent) of public school teachers with fewer than five years of experience reported participating in a teacher induction program during the first year of teaching, and 71 percent reported being assigned some kind of mentor teacher. This is a noticeable increase from a decade earlier, when only 56 percent of teachers had experienced teacher induction in their first year of teaching.
- **More than 9 out of 10 U.S. teachers have participated in professional learning consisting primarily of short-term conferences or workshops.** Fewer teachers participated in other forms of traditional professional development, including university courses related to teaching (36 percent) and observational visits to other schools (22 percent). The percentage of teachers who visited classrooms in other schools dropped from 34 percent to 22 percent from 2000 to 2004, the most recent year for which national data are available.
- **While teachers typically need substantial professional development in a given area (close to 50 hours) to improve their skills and their students' learning, most professional development opportunities in the U.S. are much shorter.** On the 2003-04 national Schools and Staffing Survey (SASS), a majority of teachers (57 percent) said they had received no more than 16 hours (two days or less) of professional development during the previous 12 months on the content of the subject(s) they taught. This was the most frequent area in which teachers identified having had professional development opportunities. Fewer than one-quarter of teachers (23 percent) reported that they had received at least 33 hours (more than 4 days) of professional development on the content of the subject(s) they taught.
- **Significant variation in both support and opportunity for professional learning exists among schools and states.** A lower percentage of secondary school teachers reported participating in district-planned professional development than did elementary school teachers. Among states, Arkansas, Connecticut, New Hampshire, and Vermont had significantly higher proportions of teachers participating in professional learning than the national average.
- **U.S. teachers report little professional collaboration in designing curriculum and sharing practices, and the collaboration that occurs tends to be weak** and not focused on strengthening teaching and learning.
- **American teachers say that much of the professional development available to them is not useful.** Teachers give relatively high marks to content-related learning opportunities, with 6 of 10 teachers (59 percent) saying this training was useful or very useful. But fewer than half found the professional development they received in other areas to be of much value.

- **Teachers say that their top priorities for further professional development are learning more about the content they teach (23 percent), classroom management (18 percent), teaching students with special needs (15 percent), and using technology in the classroom (14 percent).**
- **Teachers are not getting adequate training in teaching special education or limited English proficiency students.** More than two-thirds of teachers nationally had not had even one day of training in supporting the learning of special education or LEP students during the previous three years, and only one-third agreed that they had been given the support they needed to teach students with special needs.
- **U.S. teachers, unlike many of their colleagues around the world, bear much of the cost of their professional development.** While most teachers were given some time off during the work day to pursue professional learning opportunities, fewer than half received reimbursement for travel, workshop fees, or college expenses.
- **U.S. teachers participate in workshops and short-term professional development events at similar levels as teachers in other nations. But the United States is far behind in providing public school teachers with opportunities to participate in extended learning opportunities and productive collaborative communities.** Those are the opportunities that allow teachers to work together on issues of instructional planning, learn from one another through mentoring or peer coaching, conduct research on the outcomes of classroom practices, and collectively guide curriculum, assessment, and professional learning decisions.
- **Other nations that outperform the United States on international assessments invest heavily in professional learning and build time for ongoing, sustained teacher development and collaboration into teachers' work hours.**
- **American teachers spend much more time teaching students and have significantly less time to plan and learn together, and to develop high quality curriculum and instruction than teachers in other nations.** U.S. teachers spend about 80 percent of their total working time engaged in classroom instruction, as compared to about 60 percent for these other nations' teachers.
- **U.S. teachers have limited influence in crucial areas of school decision-making.** In many high-achieving nations where teacher collaboration is the norm, teachers have substantial influence on school-based decisions, especially in the development of curriculum and assessment, and in the design of their own professional learning. In the United States, however, fewer than one-fourth of teachers feel they have great influence over school decisions and policies in seven different areas noted in the SASS surveys. While a scant majority of teachers across the nation feel that they have some influence over curriculum and setting performance standards for students, fewer than half perceived that they had some influence over the content of their in-service professional development. And very few felt they had influence over school policies and decisions affecting either teacher hiring and evaluation or the allocation of the school budget.

Introduction

Every year, virtually all of the nation's three million teachers participate in some form of professional learning: These activities can include workshops, study groups, mentoring experiences, opportunities to view other teachers' classrooms, and numerous other formal and informal learning experiences.

Professional learning can have a powerful effect on teacher skills and knowledge and on student learning if it is sustained over time, focused on important content, and embedded in the work of professional learning communities that support ongoing improvements in teachers' practice. When well-designed, these opportunities help teachers master content, hone teaching skills, evaluate their own and their students' performance, and address changes needed in teaching and learning in their schools.

Educators and policymakers increasingly recognize the importance of providing high-quality learning opportunities to help transform teaching. As students are expected to learn more complex analytical skills in preparation for further education and work in the 21st century, teachers must learn to teach in ways that develop higher-order thinking and performance. Ensuring student success requires a new kind of teaching, conducted by teachers who understand learning and pedagogy, who can respond to the needs of their students and the demands of their disciplines, and who can develop strong connections between students' experiences and the goals of the curriculum. Efforts to improve student achievement can succeed only by building the capacity of teachers to improve their instructional practice and the capacity of school systems to promote teacher learning.

The following pages provide a comprehensive survey of the existing research on effective professional learning, followed by snapshots of the various ways in which professional learning is being redesigned in the rest of the industrialized world, strategies that we might consider adopting or expanding in this country.

Using nationally representative data from the National Center for Education Statistics' 2003-04 Schools and Staffing Survey (SASS)—the most recent available—the report also examines the status of opportunities and supports for professional development available to teachers nationally and across states. We sought to determine whether current policies and practices are aligned with what research shows to be effective professional development practices. We also explored differences in opportunities and supports for professional development across school contexts (e.g., grade level, location, and student subgroup). In addition, we examined differences in teachers' access to professional development opportunities and supports in different types of school communities.

The SASS data set is a nationally representative sample of more than 130,000 public and private school teachers across all 50 states and the District of Columbia. The data allowed researchers to evaluate the content of and support for professional development, conditions fostering teacher collaboration and learning, and induction practices nationwide. We also examined the NSDC Standards Assessment Inventory (SAI) (2007-08), which measures teachers' perceptions regarding their professional development as compared with NSDC's standards for effective professional development. It has been administered to more than 150,000 teachers in more than 5,400 schools across 11 states and one Canadian province. For the purpose of this study, researchers closely examined data from the four states (Alabama, Arizona, Georgia, and Missouri) that had administered the survey statewide. The report also includes data from other surveys, such as the *MetLife Survey of the American Teacher* and the National Education Association's Survey of America's Teachers and Support Professionals on Technology, which allowed researchers to compare findings with the SASS data set. For a complete copy of the report, please see www.nsdc.org/stateproflearning.cfm

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Effective Teacher Development: What Does the Research Show?

CHAPTER 1

Rigorous research suggests that sustained and intensive professional learning for teachers is related to student-achievement gains. An analysis of well-designed experimental studies found that a set of programs which offered substantial contact hours of professional development (ranging from 30 to 100 hours in total) spread over six to 12 months showed a positive and significant effect on student achievement gains. According to the research, these intensive professional development efforts that offered an average of 49 hours in a year boosted student achievement by approximately 21 percentile points. Other efforts that involved a limited amount of professional development (ranging from 5 to 14 hours in total) showed no statistically significant effect on student learning.[1]

While these findings are striking, they come from a limited pool of rigorous quantitative studies. For example, the studies described above came from a meta-analysis of 1,300 research studies and evaluation reports, from which researchers identified just nine experimental or quasi-experimental studies using control groups with pre- and post-test designs that could evaluate impacts of professional development on student achievement.[2] Other reviews of research on professional development in literacy[3] and mathematics[4] also found few studies designed to support causal inferences.

Nonetheless, the methodologically strong studies that we do have suggest that well-designed professional development can influence teacher practice and student performance. The research base also illustrates the shortcomings of the occasional, one-shot workshops that many school systems tend to provide, which generations of teachers have derided.[5] More importantly, this research suggests some general guidelines for the design of effective professional development programs.

While we stress that causal relationships are not fully established, the literature does point to some basic principles for designing professional learning that school and district leaders and policymakers would be well advised to consider:

1. Professional development should be intensive, ongoing, and connected to practice.

Today, as in previous decades, most professional development for teachers comes in the form of occasional workshops, typically lasting less than a day, each one focusing on discrete topics (such as classroom management, computer-based instruction, student motivation, assessment, the teaching of phonics, and so on), with their connection to the classroom left to teachers' imaginations.

However, such episodic workshops disconnected from practice do not allow teachers the time for serious, cumulative study of the given subject matter or for trying out ideas in the classroom and reflecting on the results. Research that finds changes in teacher practice and, in some cases, student learning, supports the conclusion that:

Intensive professional development, especially when it includes applications of knowledge to teachers' planning and instruction, has a greater chance of influencing teaching practices and, in turn, leading to gains in student learning.[6]

Indeed, the duration of professional development appears to be associated with stronger impact on teachers and student learning—in part, perhaps, because such sustained efforts typically include applications to practice, often supported by study groups and/or coaching. As noted earlier, the nine existing experimental research studies of in-service programs found that programs of greater intensity and duration were positively associated with student learning. In addition, two separate evaluations of a year-long program designed to promote inquiry-based science instruction found that teachers who received 80 or more hours of professional development were significantly more likely to put the given teaching strategies into practice than were teachers who had received many fewer hours. Further, the more intense, long-term

Rigorous research illustrates the shortcomings of the occasional, one-shot workshops that many school systems tend to provide, which generations of teachers have derided.

professional development teachers have, the greater the achievement gains posted by their students during the following year.[7]

These findings match up well with teachers' self-reported beliefs about the value of intensive and ongoing professional development. According to results from a national survey, teachers view in-service activities as most effective when they are sustained over time.[8]

2. Professional development should focus on student learning and address the teaching of specific curriculum content.

Research suggests that professional development is most effective when it addresses the concrete, everyday challenges involved in teaching and learning specific academic subject matter, rather than focusing on abstract educational principles or teaching methods taken out of context.

Professional development is most effective when it addresses the concrete, everyday challenges involved in teaching and learning specific academic subject matter.

For example, researchers have found that teachers are more likely to try classroom practices that have been modeled for them in professional development settings.[9] Likewise, teachers themselves judge professional development to be most valuable when it provides opportunities to do "hands-on" work that builds their knowledge of academic content and how to teach it to their students, and when it takes into account the local context (including the specifics of local school resources, curriculum guidelines, accountability systems, and so on).[10]

Equally important, professional development that leads teachers to define precisely which concepts and skills they want students to learn, and to identify the content that is most likely to give students trouble, has been found to improve teacher practice and student outcomes.[11] To this end, it is often useful for teachers to be put in the position of studying the very material that they intend to teach to their own students. For example, one well-known study focused on elementary science teachers who participated in a 100-hour summer institute, during which they actively engaged in a standard "learning cycle" that involved exploring a phenomenon, coming up with a theory that explained what had occurred, and applying it to new contexts. After going through this process, teachers went on to develop their own units and teach them to one another before returning to their classrooms. Later, the researchers tested the reasoning ability of randomly selected students in those classrooms and found they scored 44 percent higher on average than did a control group of students taught by teachers who had not participated in the summer institute.[12]

It can be useful also for groups of teachers to analyze and discuss student-performance data and samples of students' course work (science projects, essays, math tests, and so on), in order to identify students' most common errors and misunderstandings, reach common understanding of what it means for students to master a given concept or skill, and find out which instructional strategies are or are not working, and for whom.[13] Notably, one study of three high-achieving schools found that high levels of student performance seemed to be associated in part with teachers' regular practice of consulting multiple sources of data on student performance and using those data to inform discussions about ways to improve instruction.[14]

3. Professional development should align with school improvement priorities and goals.

Research suggests that professional development tends to be more effective when it is an integral part of a larger school reform effort, rather than when activities are isolated, having little to do with other initiatives or changes underway at the school.[15] If teachers sense a disconnect between what they are urged to do in a professional development activity and what they are required to do according to local curriculum guidelines, texts, assessment practices, and so on—that is, if they cannot easily implement the strategies they learn, and the new practices are not supported or reinforced—then the professional development tends to have little impact.

One prominent model of carefully integrated professional development is the National Science Foundation's *Discovery* program implemented in Ohio beginning in 1992, which offered sustained support for teachers as part of a larger statewide effort to improve student achievement in science. Following intensive six-week institutes focusing on science content and instruction that matched those outlined in the state standards, teachers were given release time to attend a series of six seminars covering curriculum and assessment. In addition, they were provided on-demand support and site visits from regional staff developers, and contact with peers through newsletters and annual conferences. According to an independent evaluation, this combination of support led to a significant increase in and continued use of inquiry-based instructional practices.[16]

4. Professional development should build strong working relationships among teachers.

As researchers have shown many times over the past three decades,[17] the nation's teachers exhibit a strongly individualistic ethos, owing largely to the built-in privacy and isolation of their daily work as it has been organized in most U.S. schools. Given the prevalence of an "egg-crate model" of instruction—whereby each teacher spends most of the day in a single room, separated from other adults—the American teaching profession has not yet developed a strong tradition of professional collaboration. Historically, schools have been structured so that teachers work alone, rarely given time together to plan lessons, share instructional practices, assess students, design curriculum, or help make administrative or managerial decisions.

Such cultural norms are not easily changed, particularly if school structures and working conditions continue to favor privacy and isolation. However, research shows that when schools are strategic in creating time and productive working relationships within academic departments or grade levels, across them, or among teachers schoolwide, the benefits can include greater consistency in instruction, more willingness to share practices and try new ways of teaching, and more success in solving problems of practice.[18]

For example, a comprehensive five-year study of 1,500 schools undergoing major reforms found that in schools where teachers formed active professional learning communities, student absenteeism and dropout rates were reduced and achievement increased significantly in math, science, history, and reading. Further, particular aspects of teachers' professional communities—a shared sense of intellectual purpose and a sense of collective responsibility for student learning—were associated with a narrowing of achievement gaps in math and science among low- and middle-income students.[19] A number of large-scale studies have identified specific ways in which professional community-building can deepen teachers' knowledge, build their skills, and improve instruction.[20]

Perhaps the simplest way to break down professional isolation—but one which rarely occurs in most schools—is for teachers to observe each other's teaching and to provide constructive feedback. In an evaluation of 12 schools implementing Critical Friends Groups—a peer-observation system developed by the National School Reform Faculty employing a set of protocols that teachers use to guide their observations and responses—researchers found that teachers' instruction became more student-centered, with a focus on ensuring that students gained mastery of the subject as opposed to merely covering the material. In survey responses, teachers in these schools also reported having more opportunities to learn and a greater desire to continuously develop more effective practices than teachers who did not participate.[21]

Teachers can also use videotapes of teaching to make aspects of their practice public and open to peer critique, learn new practices and pedagogical strategies, and analyze aspects of teaching practice that may be difficult to capture otherwise. Recent research on teachers undertaking certification by the National Board for Professional Teaching Standards—which involves them in producing and analyzing their own classroom videotapes in relation to professional standards, and often discussing them with colleagues—has found that the experience can lead teachers to change how they teach, increase their knowledge of various approaches, and enable them to engage in more effective teaching practices in the classroom.[22]

While efforts to strengthen teachers' professional relationships can take many forms, a number of researchers have identified specific conditions necessary for their success. For example, in a study of 900 teachers in 24 elementary and secondary schools across the country, researchers found that teachers formed more stable and productive professional communities in smaller schools, schools with little staffing complexity (i.e., where more staff members are classroom teachers and fewer are assigned to specialist and administrative jobs), schools where teachers were relatively more involved in educational decision-making, and, especially, schools that scheduled regular blocks of time for teachers to meet and plan courses and assignments together.[23]

ADDITIONAL PROMISING STRATEGIES

In recent years, many schools and districts across the country have invested in school-based coaching programs, one of the fastest growing forms of professional development today. Typically in such models, administrators identify well-regarded veteran educators and assign them to provide ongoing guidance, advice, and mentoring to a group or groups of teachers to help them improve their instruction.

When schools are strategic in creating time and productive working relationships within academic departments or grade levels, across them, or among teachers schoolwide, the benefits can include better instruction and more success in solving problems of practice.

Closely related to school-based coaching is the increasingly common practice of providing mentoring and other forms of formal induction to beginning teachers. Often serving as the primary source of professional development for teachers in the first few years of their careers, various forms of new teacher induction are now required in more than 30 states.

While both of these strategies can be justified on common-sense grounds, their results are not yet confirmed by a solid body of evidence, and the jury remains out as to their effectiveness or the conditions under which they are most likely to be effective. Thus, policymakers would be well-advised to keep in mind the following two points.

While coaching, mentoring, and induction can be justified on common-sense grounds, the jury remains out as to their effectiveness or the conditions under which they are most likely to be effective.

School-based coaching may enhance professional learning.

Several comparison-group studies have found that teachers who receive coaching are more likely to enact the desired teaching practices and apply them more appropriately than are teachers receiving more traditional professional development.[24]

However, a study conducted in the Netherlands found that while teachers who had been coached felt more confident in their teaching, they were not rated as more effective than teachers who had not been coached.[25] Another small-scale study found that teachers who had received coaching on particular strategies did not necessarily know when it was appropriate to select one instructional strategy over another.[26] These studies suggest that coaching may need to be embedded in broader efforts to build professional knowledge if it is to be most useful.

Several evaluations have suggested that coaching models of professional development have contributed to positive reforms in literacy instruction. For example, one study cites the impressive achievement gains of students whose school participated in the Alabama Reading Initiative, which utilized a school-based coaching model (following an intensive two-week summer institute) to provide ongoing support to teachers implementing the new literacy approach.[27] Another recent evaluation found that as a result of a differentiated literacy program and other interventions that utilized a coaching model, the percentage of students meeting benchmark standards in an Illinois district increased markedly.[28] In a study by the Foundation for California Early Literacy Learning, teachers reported that the coaching they received had a positive effect on student achievement.[29] Likewise, some researchers have linked achievement gains in reading and writing to literacy coaching.[30]

None of these studies, however, employed comparison-group methods with sufficient controls and on a large enough scale to establish a strong association or causal link between coaching and student achievement, and more rigorous research is required to confirm these relationships.

Further, a major literature review conducted as part of an Institute for Education Sciences evaluation of the Reading First program reported mixed findings on the impact of coaching on instructional practice. As the authors explained, those findings should be read as neither an endorsement nor a criticism of the professional development model, since they may reflect variability in the expertise and practices of those assigned as coaches. In other words, the findings may have as much to do with the content or the uneven implementation of the specific coaching received as with the coaching model itself.[31]

As in any professional development enterprise, it is also critically important that the instructional practices promoted through coaching are themselves more effective for the goals and circumstances in which they are being used than the practices teachers are otherwise using. The content of professional learning matters as much as the process by which it is transmitted.

Mentoring and Induction programs for new teachers may support teacher effectiveness.

In one large-scale literature review, researchers found that induction programs tend to be effective in reducing attrition among beginning teachers. The strongest retention rates were associated with the assignment of a teacher mentor working in the same subject area and/or grade level, common planning time with teachers in the same subject, regularly scheduled collaboration with other teachers, and participation in a network of teachers.[32] One analysis found that when beginning teachers received a combination of such induction supports, attrition declined by half.[33]

Some studies suggest also that when teacher mentors receive formal training, along with release time to provide one-to-one mentoring, the retention and classroom performance of beginning teachers improves.[34] Further, a recent literature review noted that a number of case-based research studies give strong support to induction programs that are "collegial" and "job-embedded" (as when mentors observe beginning teachers in the classroom), while finding that workshops for new teachers tend to be ineffective.[35] However, these same reviewers

also note that the research to date has tended to rely on teachers' self-reported gains in their knowledge and skills. Few studies of mentoring and induction have documented observable changes in instructional practice or reported measurable impacts on student achievement.

An ongoing large-scale research project is currently underway that aims to measure such impacts (including effects on classroom practices, student achievement, and teacher mobility) by using a randomized control-group model to study a teacher-induction program. The program offers mentoring, teacher observations, formative assessments, and workshops across 17 districts, with the districts' regular induction programs providing a basis for comparison. The first-year report, released in October 2008, reported no statistically significant differences in teacher practices, student test scores, or teacher retention between the two groups of teachers.[36] However, it is difficult to generalize about induction from these results, since the level and intensity of teachers' participation varied so much that they cannot be accurately described as having received the same "treatment," or even as having received a distinctively different treatment from the comparison group.

The initial results of this study highlight the need for more rigorous research into the impact of induction supports on instruction, teacher retention, and student achievement. As yet, such interventions remain promising but not proven.

Professional Development Abroad: Trends and Strategies

CHAPTER 2

Effective professional learning is commonly available in many other industrialized nations, including those that have been recognized as high achieving on important international measures such as the Programme for International Student Assessment (PISA) and the Third International Mathematics and Science Study (TIMSS).

In comparison to the United States, industrial nations that are members of the Organisation for Economic Co-operation and Development (OECD) provide teachers significantly more professional learning. While the results of surveys using somewhat different methods and questions do not allow for direct comparisons, the evidence is clear that teachers in other nations are significantly more likely to visit classrooms of teachers in other schools, collaborate frequently on issues of instruction, and participate in collaborative research.

The practices described in this section are among the many factors contributing to the differences across countries, and it would be impossible to prove that these practices deserve singular credit for high levels of student achievement in these nations. However, given how closely they resemble the professional development that research shows to be effective in this country, it would be reasonable to assume that they have made a significant contribution.

Specifically, our review of the research literature and data on professional development in high achieving countries reveals that teachers in those nations tend to enjoy at least four advantages over their counterparts in the United States:

1. Ample time for professional learning is structured into teachers' work lives.

One of the key structural supports for teachers engaging in professional learning is the allocation of time in the work day and week to participate in such activities. In most European and Asian countries, instruction takes up less than half of a teacher's working time.[37] The rest—generally about 15 to 20 hours per week—is spent on tasks related to teaching, such as preparing lessons, marking papers, meeting with students and parents, and working with colleagues. Most planning is done in collegial settings (such as large faculty rooms where teachers' desks are located to facilitate collective work)[38] and during meetings of subject-matter departments and grade-level teams.

Schools in European nations—including Denmark, Finland, Hungary, Italy, Norway, and Switzerland—dedicate time for regular collaboration among teachers on issues of instruction.[39] For example, teachers in Finnish schools meet one afternoon each week to jointly plan and develop curriculum; and schools within the same municipality are encouraged to work together and share materials. A majority of schools in high-achieving nations provide time for teachers' professional development by building it into teachers' work day and/or by providing class coverage by other teachers. Among OECD nations, more than 85 percent of schools in Belgium, Denmark, Finland, Hungary, Ireland, Norway, Sweden, and Switzerland provide time for professional development as part of teachers' average work day or week.[40] When time for professional development is built into teachers' schedules, their learning activities can be ongoing and sustained and can focus on a particular issue or problem over time.

Similar practices are common in Japan, Singapore, and other Asian nations, as well. In South Korea, for example, only about 35 percent of teachers' working time is spent on classroom instruction. There and in other nearby countries, teachers devote non-classroom time to collaborative planning, lesson study, peer observations, and action research.

By contrast, U.S. teachers generally have from 3 to 5 hours a week for lesson planning, usually scheduled independently rather than jointly with colleagues.[41] U.S. teachers also average far more net teaching time in direct contact with students (1,080 hours per year) than any other OECD nation. By comparison, the OECD average is only 803 hours per year for primary schools and 664 hours per year for upper secondary schools.[42] U.S. teachers spend about 80 percent of their total working time engaged in classroom instruction, as compared to about 60 percent for these other nations' teachers, who thus have much more time to plan and learn together, and to develop high-quality curriculum and instruction.

In most countries, about 15 to 20 hours per week is spent on tasks related to teaching, such as preparing lessons, marking papers, meeting with students and parents, and working with colleagues. By contrast, U.S. teachers generally have from 3 to 5 hours a week for lesson planning, which is done independently.

JAPAN'S LESSON STUDY APPROACH TO PROFESSIONAL DEVELOPMENT

In Japan, *kenkyuu jugyou* (research lessons) are a key part of the learning culture. Every teacher periodically prepares a best possible lesson that demonstrates strategies to achieve a specific goal (e.g., students becoming active problem-solvers or learning more from each other) in collaboration with colleagues. A group of teachers observe while the lesson is taught and usually record the lesson in a number of ways, including videotapes, audiotapes, and narrative and/or checklist observations that focus on areas of interest to the instructing teacher (e.g., how many students volunteered their own ideas). Afterwards, the group of teachers, and sometimes outside educators, discuss the lesson's strengths and weaknesses, ask questions, and make suggestions to improve the lesson. In some cases, the revised lesson is given by another teacher only a few days later and observed and discussed again.[43]

Teachers themselves decide the theme and frequency of research lessons. Large study groups often break up into subgroups of 4 to 6 teachers. The subgroups plan their own lessons but work toward the same goal, and teachers from all subgroups share and comment on lessons and try to attend the lesson and follow-up discussion. For a typical lesson study, the 10-15 hours of group meetings are spread over 3-4 weeks. While schools let out between 2:40 and 3:45 pm, teachers' work days don't end until 5:00 pm, which provides additional time for collegial work and planning. Most lesson study meetings occur during the hours after school lets out. The research lessons allow teachers to refine individual lessons, consult with other teachers and receive feedback based on colleagues' observations of their classroom practice, reflect on their own practice, learn new content and approaches, and build a culture that emphasizes continuous improvement and collaboration.[44]

Some teachers also provide public research lessons, which expedites the spread of best practices across schools; allows principals, district personnel, and policymakers to see how teachers are grappling with new subject matter and goals; and gives recognition to excellent teachers.[45]

In most of the countries studied, teachers are actively involved in curriculum and assessment development, often in response to national or state standards, and they guide much of the professional development they experience.

2. Beginning teachers receive extensive mentoring and induction supports.

Induction programs are mandatory in many countries and they tend to emphasize the building of strong professional relationships among beginning and veteran teachers, as well as the development of teaching practice. In China, for example, both new and experienced teachers participate in extensive peer observation, lesson preparation, and teaching research groups. In France, beginning teachers participate in teacher institutes at the local university and are inducted into a community of same-subject teachers. In Switzerland, beginning teachers work in practice groups of about six teachers from across different schools and together they participate in peer observation, observation of more experienced colleagues, and self/peer evaluation within the practice group.[46]

In a model like that found in a number of Asian nations, the New Zealand Ministry of Education funds 20 percent release time for new teachers and 10 percent release time for second-year teachers, and requires schools to have a locally developed program to develop new teachers' abilities.[47] Most of the release time is used to give veterans time for coaching and to give new teachers time to meet with the mentors who observe them and to engage in professional development; it also supports extra time to develop lesson plans.[48]

Mentor teachers and coaches play a key part in launching new teachers into the profession, and some countries (including England, France, Israel, Norway, and Switzerland) require formal training for mentor teachers.[49] In Singapore, master teachers are appointed to lead the coaching and development of the teachers in each school.[50] Norwegian principals assign an experienced, highly qualified mentor to each new teacher and the teacher-education institution then trains the mentor and takes part in in-school guidance.[51] In some Swiss states, the new teachers in each district meet in reflective practice groups twice a month with an experienced teacher who is trained to facilitate their discussions of common problems for new teachers.[52]

3. Teachers are widely encouraged to participate in school decision-making.

In most of the countries studied, teachers are actively involved in curriculum and assessment development, often in response to national or state standards, and they guide much of the professional development they experience. In Western Europe, nations such as Finland, Sweden, and Switzerland have decentralized most classroom decision-making to professionally well-informed schools and teachers. Highly detailed curriculum documents and external tests were replaced in the 1970s and '80s by much leaner standards outlining broad goal statements designed to guide teachers' development of curriculum and instruction. Teachers in these and many other nations are responsible for developing syllabi, selecting textbooks, developing curriculum and assessments, deciding on course offerings and budget issues, planning and scheduling professional development, and more.[53] They typically design key school-based assessments to evaluate student learning as part of the overall assessment system. In place of professional development dictated by national boards of

SINGAPORE'S INVESTMENT IN TEACHER PROFESSIONAL LEARNING

Among its many investments in teacher professional learning is the Teacher's Network, established in 1998 by the Singapore Ministry of Education as part of Prime Minister Goh Chok Tong's new vision, "Thinking Schools, Learning Nation." This vision aims to produce life-long learners by making schools a learning environment for everyone from teachers to policymakers and having knowledge spiral up and down the system. The network's mission serves as a catalyst and support for teacher-initiated development through sharing, collaboration, and reflection. It has six main interrelated components: (1) learning circles, (2) teacher-led workshops, (3) conferences, (4) well-being program, (5) a Web site, and (6) publications.[57]

In a Teacher's Network learning circle, 4 to 10 teachers and a facilitator collaboratively identify and solve common problems chosen by the participating teachers using discussions and action research. The learning circles generally meet for eight two-hour sessions over a period of 4 to 12 months. Supported by the national university, Teacher's Network professional development officers run an initial whole-school training program on the key processes of reflection, dialogue, and action research—and a more extended program to train teachers as learning circle facilitators and mentor facilitators in the field. A major part of the facilitator's role is to encourage the teachers to act as co-learners and critical friends so that they feel safe to take the risks of sharing their assumptions and personal theories, experimenting with new ideas and practices, and sharing their successes and problems. Discussing problems and possible solutions in learning circles fosters a sense of collegiality among teachers and encourages them to be reflective practitioners. Learning circles allow teachers to feel that they are producing knowledge, not just disseminating received knowledge.[58]

Teacher-led workshops provide teachers an opportunity to present their ideas and work with their colleagues in a collegial atmosphere where everyone, including the presenter, is a co-learner and critical friend. Each workshop is jointly planned with a Teacher's Network professional development officer to ensure collaboration. The presenters first prepare an outline of their workshop, then the professional development officer helps the presenters articulate their tacit knowledge and assumptions and trains them in facilitation. They do not present as experts with all the answers, but share and discuss the challenges they face in the classroom. The process is time consuming, but almost all teacher presenters find that it leads to professional growth.[59]

education, the content of professional learning is determined according to local needs and is often embedded in the work of "teacher teams" or "teacher units" at particular schools, which are empowered to make decisions around curriculum and evaluation.[54]

In Sweden, the decentralization of curriculum planning and in-service training led to a shift in the focus of the development work at each school—from prescribed teacher-training models defined by the central education ministry, to teacher-designed projects focused on solving problems in teachers' own classrooms.[55] Teachers are now required to participate in teacher teams, which meet during regular working hours to discuss and make decisions on common matters in their work, including the planning of lessons, the welfare of pupils, and curriculum development and evaluation.[56] Such action research to solve pedagogical problems and guide curriculum decisions is also encouraged in Australia, Hong Kong, New Zealand, and Singapore.

4. Governments provide significant levels of support for additional professional development.

Beyond the structure of the work day that accommodates daily professional collaboration, many high-achieving nations dedicate significant resources to professional development, often drawing on expertise beyond the school. Some countries have established national requirements for professional development. For example, the Netherlands, Singapore, and Sweden require at least 100 hours of professional development per year, in addition to regularly scheduled time for common planning and other teacher collaborations.[60] This emphasis on professional development opportunities requires significant investment on the part of ministries of education. In Sweden, for instance, 104 hours or 15 days a year (approximately 6 percent of teachers' total working time) are allocated for teachers' in-service training.[61] And in 2007, the national government appropriated a large grant to establish a teachers' in-service training program called "lifting the teachers," which pays the tuition for one university course for all compulsory school and preschool teachers. Further, the grant supports 80 percent of teachers' salaries if they agree to work a 20 percent schedule in their schools while enrolled full time in a post-graduate program.[62]

The Netherlands, Singapore, and Sweden require at least 100 hours of professional development per year, in addition to regularly scheduled time for common planning and other forms of teacher collaboration.

After their fourth year of teaching, South Korean teachers must take 90 hours of professional development courses every 3 years. Also, after 3 years on the job, teachers are eligible to enroll in a government-approved 5-week (180-hour) professional development program to obtain an advanced certificate, which provides an increase in salary and eligibility for promotion.[63]

In Singapore, the government pays for 100 hours of professional development each year for all teachers. That is in addition to the 20 hours a week they have to work with other teachers and visit each others' classrooms to study teaching. Further, and with government funding, teachers can take courses at the National Institute of

In England, as a result of two national literacy initiatives, expertise is increasingly located at the local level, with consultants and leading mathematics and literacy teachers in support roles.

Education toward a master's degree aimed at advancement to curriculum specialist, mentor for other teachers, or school principal.

Some countries have established national training programs. In England, for example, governmental offices devoted to literacy and numeracy sponsor a countrywide teacher-to-teacher training effort, focusing on proven instructional practices in those subjects. Many observers credit that work with a subsequent rise in the percentage of students meeting national literacy standards from 63 percent to 75 percent in just three years.[64] The training program is one of England's national literacy and numeracy initiatives. It provides resources—such as high-quality teaching materials, resource documents, and videos depicting good practice—to support implementation of the national curriculum frameworks. The national initiatives train and mobilize school heads, coordinators, lead math teachers, and expert literacy teachers to, in turn, train teachers to learn and use productive practices.[65] Over time, expertise is increasingly located at the local level, with consultants and leading mathematics and literacy teachers in support roles.[66]

And, since 2000, the Australian government has sponsored the Quality Teacher Programme, a large-scale initiative that provides funding to update and improve teachers' skills and knowledge in priority areas and to enhance the status of teaching in both government and non-government schools. The program develops national teaching standards, conducts research and communicates research findings, and funds professional learning activities for teachers and school leaders under agreements with state and territory education authorities. National efforts address national needs, identify and promote best practice, support the development and dissemination of professional learning resources in priority areas, and develop professional networks for teachers and school leaders. State and territory initiatives are tailored to address local needs and include school-based action research and learning, conferences, workshops, on-line or digital media, and the training of trainers as well as school project and team leaders.[67]

These experiences underscore the importance of on-the-job learning with colleagues as well as sustained learning from experts in content and pedagogy. The diversity of approaches indicates that schools can shape professional learning to best fit their circumstances and teacher and student learning needs.

The Status Of Professional Learning In The United States

CHAPTER 3

To what extent do America's public school teachers receive the kinds of professional learning that the research recommends or that other nations embrace?

In order to assess the current status of professional learning in U.S. schools, as well as trends over time, we examined teacher- and school-questionnaire data from the federal Schools and Staffing Surveys of 1999-2000 and 2003-04 (National Center for Education Statistics).[68] We analyzed the data in terms of opportunities for professional learning reported by teachers at the national and state levels and by school types (e.g., grade level, type of community, and student population served).

On the positive side, we found signs that some education systems are developing more sophisticated understandings of what constitutes high-quality professional learning, and we found evidence that increasing numbers of schools and districts are providing high-quality supports for their teachers.

Unfortunately, we also found that such well-designed professional development is still relatively rare, and few of the nation's teachers have access to regular opportunities for intensive learning.[69]

Specifically, the survey data reveal that:

1. Most U.S. teachers participate in some form of professional development every year.

In 2003-04, almost all U.S. teachers (92 percent) reported participating in workshops, conferences, or other training sessions over the previous 12 months, a slight decline from the levels of participation in 1999-2000 (95 percent). Fewer teachers participated in other forms of traditional professional development, including university courses related to teaching (36 percent) and observational visits to other schools (22 percent). Twenty-five percent of teachers had served as a presenter at a workshop, conference, or training session. Among these types of professional development, there was a sharp drop from 2000 to 2004 in the proportion of teachers who had the opportunity to observe classes in other schools—from 34 percent to 22 percent—while other forms of learning remained relatively stable.

There appears to be wide variation in the types of professional learning that teachers experience across states. Aside from workshops and conferences, in which nearly all teachers participate, the percentage of teachers who took university courses related to teaching ranged from 15 percent in Texas to 79 percent in Idaho. The percentage of teachers who were presenters at workshops or training sessions ranged from 18 percent in Iowa to 37 percent in the District of Columbia. And the percentage of teachers who participated in observational visits to other schools ranged from 14 percent in West Virginia to 39 percent in Utah.

We found that well-designed professional development is still relatively rare, and few of the nation's teachers have access to regular opportunities for intensive learning.

TABLE 1 - Participation in Traditional Professional Development

(Percentage of teachers reporting participation in traditional professional development during the previous 12 months, 1999-2000 and 2003-04)

Types of traditional professional development	Percentage of teachers 1999-2000	Percentage of teachers 2003-04
1) University courses for recertification or advanced certification [a]	31.6	
University courses in the main assignment field [a]	23.4	
University courses related to teaching [b]		35.5
2) Observational visits to other schools	34.4	22.4
3) Workshops, conferences, or training sessions (not a presenter)	94.8	91.5
4) Presenter at workshops, conferences, or training sessions	22.3	25.1

[a] *These questions were asked in the 1999-2000 SASS Teacher Questionnaire but not in the 2003-04 version.*

[b] *This question was asked in the 2003-04 SASS Teacher Questionnaire but not in the 1999-2000 version.*

2. Much professional development focuses on academic subject matter, but not with much depth.

Nationally, about 83 percent of teachers engaged in learning opportunities focused on the academic content that they taught, ranging from 75 percent in Wisconsin to 94 percent in New Hampshire.

However, this learning was not intensive. Most teachers (57 percent) received fewer than two days (16 hours) of professional development on the content of the subject(s) they taught during the previous 12 months. Only 23 percent of teachers reported that they had received 33 hours or more (more than 4 days) of professional development on the content of the subject(s) they taught, a slight increase from 18 percent four years earlier. For example, one analysis of national survey results found that mathematics teachers averaged 8 hours of professional development on how to teach mathematics and 5 hours on the "in-depth study" of topics in the subject area during 2003-04. Fewer than 10 percent experienced more than 24 hours of professional development on mathematics content or pedagogy during the year.

The federally supported Eisenhower professional development grants for mathematics and science teachers offered more intensive professional development, but that generally lasted less than a week and included, on average, only 25 contact hours.[70] Most activities did not feature a major emphasis on collegial work among teachers, which has been found to be related both to coherence and active learning opportunities, which are in turn related to improvements in teacher knowledge and skill and to changes in teachers' instructional practice.[71]

The intensity and duration of professional development offered to U.S. teachers is not at the level that research suggests is necessary to have noticeable impacts on instruction and student learning.

The amount of time spent on professional learning was even smaller for other important topics. For example, while 60 percent of teachers received some professional development on reading instruction, and slightly more (64 percent) on using computers for instruction, the vast majority of the teachers (80 percent) worked on these issues for two days or less. The percentage of teachers participating in professional development on the use of computers in instruction ranged from 40 percent in Hawaii to 93 percent in Arizona. However, even in Arizona, only 18 percent of teachers had as much as two days of professional development in this area.

Teachers were also asked to report whether they had participated in at least 8 hours of training during the last 3 years on teaching special education students and limited English proficiency (LEP) students. While 8 hours represents a modest level of attention to these issues, more than two-thirds of teachers nationally had not had even a day of such training.

The intensity and duration of professional development offered to U.S. teachers is not at the level that research suggests is necessary to have noticeable impacts on instruction and student learning. While many teachers get a day or two of professional development on various topics each year, very few have the chance to study any aspect of teaching for more than two days. Most of their professional learning does not meet the threshold needed to produce strong effects on practice or student learning. As this report notes earlier, research suggests that professional development of 14 hours or less has no effect on student learning, while longer-duration programs show positive and significant effects on student achievement.

TABLE 2 - Participation in Traditional Professional Development on Four Topics

(Percentage of teachers reporting participation in professional development during the past 12 months)

Topic of Professional Development	Percentage of teachers 2003-04	Percentage with >16 hours on topic 2003-04	Percentage who rated training on this topic "useful" or "very useful"
1) The content of the subject(s) they teach	83.4	43.3	59.3
2) Uses of computers for instruction	64.9	13.4	42.7
3) Reading instruction	60.0	19	42.5
4) Student discipline and management in the classroom	43.5	5	27.4

3. Nearly half of all U.S. teachers are dissatisfied with their opportunities for professional development.

Perhaps because of its brevity, its lack of fit to their needs, or its low quality, most teachers were not enthusiastic about the usefulness of the professional development they had received. Only 59 percent found content-related learning opportunities useful or very useful, and fewer than half found the professional development they received in other areas useful, including areas where they would like more opportunities to learn.[72] These ratings of usefulness varied little across states and school contexts.

Teachers in elementary schools rated their content-focused professional development significantly more highly than teachers in secondary schools, and tended to rate professional development experiences on other topics more highly as well. Similarly, teachers in schools with the highest enrollment of limited English proficient (LEP) students gave significantly higher ratings to their content-focused professional development than teachers in schools with lower LEP enrollment. Ratings of professional development on reading instruction were highest for teachers in elementary schools and in schools with the highest enrollments of minority, low-income, and/or LEP students.

4. U.S. teachers tend to receive little funding or other support that might allow them to participate in additional professional development.

The 2003-04 SASS Teacher Questionnaire asked teachers whether they were provided with several school or district supports for participating in professional development. The supports could have been release time, scheduled time in the contract year, a stipend when engaging in professional development outside of work hours, full or partial reimbursement of tuition for college courses, reimbursement for conference or workshop fees, and reimbursement for travel and/or daily expenses.

More than three-quarters of the respondents reported having scheduled time in the contract year for professional development. However, the duration or frequency of that scheduled time is unclear. As this report notes, very few teachers report having had the opportunity to engage in more than two days of professional development on any single aspect of their teaching, and few report more than two different kinds of professional development in a year. Thus, it does not appear that scheduled time in the contract year for professional development is of long duration.

A little over half of teachers across states reported having release time to participate in professional development, and about 40 percent were reimbursed for workshop or conference fees. Less commonly reported supports were stipends, reimbursement of college tuition, and reimbursement for travel or other expenses related to professional development.

In comparing the results for 2003-04 with the prior SASS dataset (1999-2000), we found very slight changes in school supports for professional development reported by teachers. There was a slight increase in the percentage of teachers who reported scheduled time in the contract year for professional development and slight decreases in the percentage of teachers reporting reimbursement for conference or workshop fees and for travel or expenses related to participation in professional development.

U.S. teachers in elementary schools rated their content-focused professional development significantly more highly than teachers in secondary schools, and tended to rate professional development experiences on other topics more highly as well.

TABLE 3 - School Supports for Professional Development

(Percentage of public school teachers reporting that they had received various types of support for professional development over the past 12 months)

Type of School Support	1999-2000 Percentage	2003-04 Percentage
1) Release time from teaching (i.e., your regular teaching responsibilities were temporarily assigned to someone else)	54.3	54.0
2) Scheduled time in the contract year for professional development	73.6	77.9
3) Stipend for professional development activities that took place outside regular work hours	41.6	38.3
4) Full or partial reimbursement of college tuition	14.4	14.4
5) Reimbursement for conference or workshop fees	48.5	40.5
6) Reimbursement for travel and/or daily expenses	34.1	28.3

States varied widely in the types of school support provided to teachers. Some states were more likely to provide release time than others (e.g., 70 percent in Indiana and Wyoming) or scheduled time in the contract year (e.g., 93 percent in Connecticut, 91 percent in Arkansas). Other states focused on providing stipends for professional development outside of regular work hours (64 percent in Kentucky, 62 percent in North Carolina), while others focused on providing reimbursements for college tuition (63 percent in Utah, 47 percent in Louisiana), for conference or workshop fees (77 percent in Utah, 68 percent in Nevada), or for travel/daily expenses (62 percent in Wyoming, 58 percent in Arkansas). Some states had higher than average percentages of teachers reporting at least four of the six supports, including Arkansas, Indiana, Maine, Missouri, New Hampshire, North Dakota, South Dakota, Vermont, and Wyoming.

A lower percentage of secondary school teachers reported participating in more traditional professional development than did elementary school teachers.

Some states stand out in providing opportunities for formal, more traditional forms of professional development. Because no states were consistently outstanding across all traditional professional development items, we looked at the levels of participation in workshops, conferences, or other training sessions (the most common types of traditional professional development across states), and the reported levels of support provided by schools to participate in professional development (e.g., scheduled time in the contract year, release time, and reimbursement for expenses).

Among the states that excelled in these areas were Arkansas, Connecticut, New Hampshire, Vermont, and Wyoming, where significantly higher proportions of teachers than the national average participated in professional development and reported various supports for their participation. In Arkansas, 96 percent of teachers reported participating in workshops, conferences, or other trainings, with an average of 6.6 sessions per teacher (as compared to 2.3 nationally), and 91 percent reported having scheduled time in the contract year for professional development. Sixty-three percent reported having release time for professional development as well. Similarly, 95 percent of Connecticut teachers participated in traditional professional development activities such as workshops, conferences, and trainings, with an average of 5.6 sessions per teacher during the last 12 months, and 93 percent also reported having scheduled time in the contract year for professional development.

5. Support for and participation in professional development varies widely among schools.

A lower percentage of secondary school teachers reported participating in more traditional professional development than did elementary school teachers. Also, a smaller percentage of secondary school teachers reported that they had school supports for participating in traditional professional development such as release time, scheduled time in the contract year, and a stipend when the professional development took place outside regular work hours. However a significantly higher percentage of secondary school teachers reported receiving reimbursement for conference or workshop fees and for travel or daily expenses than did elementary school teachers. These results suggest that it was more common for elementary teachers to participate in professional development that was job-embedded and a regular part of their work responsibilities than secondary teachers, who were more likely to go off site for their professional learning.

Interestingly, teachers in many of the highest-need schools received the most professional development in most areas, except the use of computers for instruction. Teachers in schools with the greatest proportions of minority, low-income, and limited English proficient students had significantly higher rates of participation in traditional professional development (such as university courses related to teaching, observational visits to other schools, workshops, conferences, or other training sessions). This was true in many areas, including the content of the subject(s) they taught, reading instruction, student discipline and classroom management, and teaching LEP students, though a smaller percentage received professional development on the use of computers for instruction than did teachers in suburban schools.

While teachers in urban schools seem to have had higher overall participation rates in formal professional development, a smaller percentage reported receiving school supports for this development, such as release time or reimbursements for tuition, conference fees, and travel. Still, teachers in schools with the highest levels of minority enrollment were most likely to report school supports for professional development, such as release time or stipends, when the professional development took place outside regular school time. However, the highest percentage of teachers reporting scheduled time in the contract year for professional development—81 percent—was found in schools with the lowest minority enrollments.

These findings are somewhat surprising, given that schools in urban areas, with the highest levels of ethnic and linguistic minorities, as well as the highest levels of poverty, typically have fewer resources for professional development than schools in wealthier suburbs with less diverse student populations. However, in 2003, the first year of No Child Left Behind implementation, the amount of federal funding available for professional development in high-need schools was increased, so states and districts made greater investments in schools with lower achievement to boost scores.

6. Relatively few U.S. teachers engage in intensive professional collaboration around curriculum planning.

While fine-grained national data on teacher collaboration are not available, the SASS Teacher Questionnaires asked teachers whether in the last 12 months they had engaged in individual or collaborative research on a topic of professional interest, participated in regularly scheduled collaboration with other teachers on issues of instruction (excluding administrative meetings), participated in peer observations, or participated in a mentor/coaching program either as a mentor/coach or as a recipient of mentoring/coaching.

In 2003-04, about 70 percent of teachers reported participating in "regularly scheduled collaboration with other teachers on issues of instruction," a slight decline from 74 percent in 1999-2000. Unfortunately, the survey does not specify what "regularly scheduled" means in terms of frequency or duration, so it is unclear whether teachers were meeting for a couple of hours a month or as much as 10 hours a week. Other responses suggest a low intensity of teacher collaboration in most schools. Nationally, only 17 percent of teachers reported a great deal of cooperative effort among staff members, and only 14 percent agreed that they had made conscious efforts to coordinate the content of courses. Evidently, whatever the collaboration among teachers, it is not spent in common curriculum planning or in building the kinds of strong professional relationships described earlier.

The SASS data also show a drop in the proportion of teachers engaged in individual or collaborative research, from 47 percent in 2000 to about 40 percent in 2004. More, however, were involved in mentoring and coaching (46 percent) or peer observations (63 percent).

A few states appear to have particularly high levels of teacher collaboration and coaching. In California, for example, 79 percent of teachers reported participating in regularly scheduled collaboration; 74 percent, participating in peer observation; and 51 percent, participating in a mentoring program; the figures from Kentucky and Washington were similar. However, even in those states, teachers reported that the intensity of that professional collaboration and course coordination was as low as the national average.

Fifty-nine percent reported having at least moderate influence over curriculum decisions, and a small majority (55 percent) said the same about setting performance standards for students, while only 48 percent felt they had even moderate influence on determining the content of professional development. Even smaller percentages of teachers felt they had influence on policies or decisions regarding teacher hiring (23 percent), the school budget (22 percent), or teacher evaluation (16 percent).

The 2006 *MetLife Survey of the American Teacher* reported that 60 percent of the 1,001 teachers surveyed rated as adequate their influence on policies that affected them. And most rated as adequate their influence on the training they received (77 percent), the school curriculum (75 percent), and "team building and problem solving" (87 percent).

In both surveys, teachers in urban schools were substantially less satisfied than teachers in non-urban schools with their influence on policies that affected them, on the training they received, and on the school curriculum.

Nationally, only 17 percent of teachers reported a great deal of cooperative effort among staff members, and only 14 percent agreed that they had made conscious efforts to coordinate the content of courses.

TABLE 4 - Participation in Job-Embedded Professional Learning
(Percentage of teachers reporting participation in informal professional learning, 2003-04)

Types of collaboration	Percentage of teachers 1999-2000	Percentage of teachers 2003-2004
1) Individual or collaborative research on a topic of professional interest	46.7	39.8
2) Regularly scheduled collaboration with other teachers on issues of instruction (excluding administrative meetings)	74.4	70.4
3) Peer observation	42.1[a]	63.0
4) Mentoring / coaching		45.7

[a] *This was a single item in the 1999-2000 SASS Teacher Questionnaire: "Mentoring and/or peer observation and coaching".*

7. Beginning teachers are increasingly likely to experience induction programs, but they have varying access to mentoring and other high-quality induction features.

Attention to the induction needs of beginning teachers is an area where the country has made considerable progress. However, the United States is still far from providing the universal access to intensive mentoring, coaching, and job supports common in other countries.

In 1996, the National Commission on Teaching and America's Future found that only 8 states mandated and funded induction programs for beginning teachers. By 2004, the Council of Chief States School Officers (CCSSO) reported that 21 states required new teachers to participate in an induction program, and 31 states provided some form of induction. Among these, 16 of the states with mandates provided state funding or subsidized the cost.[73] Another 2004 survey found that 33 states mandated new-teacher mentoring programs, with 22 of the states reporting state funding for those programs and 23 states requiring mentor training.[74] By 2008, according to *Education Week*, 22 states mandated that new teachers participate in a state-funded induction program, and 25 states required new teachers to participate in a state-funded mentoring program.[75]

Nationally, in 2003-04, 68 percent of public school teachers with fewer than 5 years of experience reported participating in a teacher induction program during the first year of teaching, and 71 percent reported being assigned some kind of mentor teacher, a noticeable increase from a decade earlier.

TABLE 5 - Beginning U.S. Teacher Access to Induction Supports

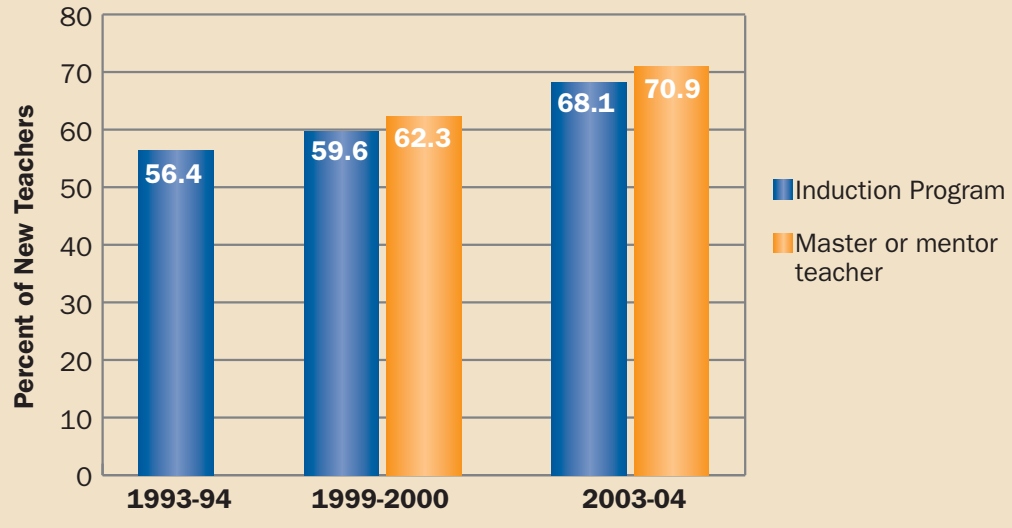
(Percentage of teachers with fewer than five years' experience who reported being provided with various induction supports in their first year of teaching, 2003-04)[a]

Type of induction support	Percentage of teachers 2003-04
1) Working with a master or mentor teacher 1a) Working with a mentor teacher in the same subject area	70.9 51.8
2) Regular supportive communication with a principal, administrator, or department chair	79.0
3) Seminars or classes for beginning teachers	67.6
4) Common planning time	49.2
5) Reduced number of preparations	8.0
6) Reduced teaching schedule	5.1

[a] *Although listed in the SASS survey as an induction element, "extra classroom assistance (e.g., teacher aide)" did not figure in the analyses of induction supports because it is not generally considered a support specifically aimed at promoting new teacher learning and growth.*

FIGURE 2 - Beginning U.S. Teacher Participation in Induction and Mentoring Programs

(Percentage of new teachers who participated in a formal induction program or worked with a master or mentor teacher during the first year of teaching, 1993-94, 1999-2000, 2003-04)



However, participating in an induction program does not necessarily mean that new teachers actually receive intensive, high-quality mentoring. In 2003-04, only about half of all beginning teachers had a mentor teacher in the same subject area, and roughly the same number had the opportunity for common planning time.

Those who did have a master or mentor teacher generally were happy with the support. In 2003-04, 74 percent of teachers who reported having a master or mentor teacher found the relationship to have been "moderately" or "greatly" helpful, with significantly higher satisfaction reported by those who shared an academic subject area with their mentor (85 percent).[76]

The findings on participation rates in induction and mentoring programs for 2003-04 are mirrored in results from the *MetLife Survey of the American Teacher* (2004-2005). The Harris polling company administered the survey to a nationally representative sample of 800 teachers with fewer than five years of experience. Eighty-one percent of the new teachers reported being assigned a more experienced mentor teacher, and of those, 63 percent rated their mentors as "very helpful" or "extremely helpful."

New teacher induction and support varied substantially across states, with particularly high rates of participation in two. In South Carolina, 85 percent of beginning teachers reported having a master or mentor teacher, 75 percent of them in the same teaching subject. And in Missouri, 87 percent of new teachers reported participating in an induction program during their first year; 91 percent of those teachers also reported having had a master or mentor teacher, 80 percent in the same teaching subject.

Rates of participation in teacher induction programs varied by school type as well. Participation was significantly higher in suburban schools (73 percent) than in urban schools (64 percent) and small town/rural schools (63 percent). Rates of teacher induction participation were highest in schools with the least poverty (75 percent) and lowest in schools with high levels of poverty (65 percent). Rates of participation in induction were also highest in schools with few English learners (77 percent), as compared to 66 percent in schools with the highest LEP enrollment. In short, suburban schools, schools in primarily affluent communities, and schools with low levels of linguistic diversity appear to be most likely to provide new teachers with induction programs and services.

8. NSDC's teacher surveys, like the SASS data, suggest less emphasis on close teacher-to-teacher collaboration than on other forms of professional development.

The results of our analyses of data from the 2007-08 NSDC's Standards Assessment Inventory for four states (Arizona, Georgia, Kansas, and Missouri) indicated that teachers rated their school principal's leadership and their schools' equity focus more highly than they rated their opportunities for teacher collaboration and their influence on school decisions and policies. These findings are consistent with those found in the SASS dataset, in which teachers reported relatively low levels of influence on school decisions and policies and low levels of cooperative effort and course coordination with other teachers. Again, these findings suggest that the kind of job-embedded collaborative learning that has been found to be important in promoting instructional improvement and student achievement is not a common feature of professional development across many schools. In addition, teachers' lack of influence over school decisions means that teachers are less likely to be engaged in collaborative problem-solving around school-specific issues.

In the four-state analysis of the Standards Assessment Inventory, we found that about three-quarters of teachers reported having a wide variety of professional development activities available to them. About 70% reported having the opportunity to participate in professional development focused on their understanding of the content they teach and on the use of technology to enhance instruction.

Teachers' reports of school supports for professional development, including release time (the provision of substitutes) and time for professional development built into teachers' regular work hours, were comparable in both datasets. In addition, about 69 percent reported that the teachers met as a whole staff to discuss ways to improve teaching and learning "frequently" or "always," but opportunities to observe each others' classroom instruction and to provide feedback to one another were less common: only 40 percent of teachers frequently observed each other, only 55 percent had time set aside to discuss what they learned from professional development experiences, and only 57 percent had frequent opportunities to give each other feedback. We saw a similar pattern in the SASS dataset, in which teachers reported little cooperative effort and coordination among teachers in their schools.

Participating in an induction program does not necessarily mean that new teachers actually receive intensive, high-quality mentoring.

Conclusion

A growing body of research on effective professional development models for teachers provides support for a new paradigm of teacher professional learning—one based on evidence about the kinds of experiences that appear to build teacher capacity and catalyze transformations in teaching practice resulting in improved student outcomes. This research allows educators and policymakers to assess the current status of professional development in the United States. In addition, the examination of professional development policies and trends in high-achieving nations in the world should encourage education and policy leaders in the United States to create a system to evaluate and compare the status of professional development in this country against international benchmarks.

The analysis of the 2003-04 Schools and Staffing Survey, as well as data from the 2004-05 MetLife Survey and the 2007-08 NSDC Standards Assessment Inventory, provides a snapshot of how the United States is doing in terms of teachers' access to powerful professional learning opportunities nationally, across states, and in particular school contexts.

The analyses indicate that the United States has made some progress in certain areas, such as the availability of induction and mentoring programs for beginning teachers and an increased emphasis on building teachers' content knowledge. However, the structures and supports that are needed to sustain teacher learning and change and to foster job-embedded professional development in collegial environments fall short. The time and opportunities essential to intense, sustained professional development with regular follow-up and reinforcement are simply not in place in most contexts, as evidenced by the short duration of most professional development activities.

The low ratings of the usefulness of most professional development activities are indicators of the insufficiency of the professional development infrastructure now in place in most states and communities. So are teachers' desire for further professional development in the content they teach, classroom management, teaching special needs students, and other topics. The low levels of teachers' perceptions of their influence on school policies, as well as the low levels of agreement on cooperative effort and coordination among teachers, reflect the lack of school governance structures and professional communities that involve teachers in collective decision-making and problem-solving. Moreover, across different school contexts, access to and quality of induction supports, technology training, and opportunities for teachers to influence school policies vary dramatically.

Comparisons of American teachers' participation in professional development with that of teachers in the international community also demonstrate that the United States is substantially behind other OECD nations in providing the kinds of powerful professional learning more likely to build teachers' capacity and have significant impact on student learning. While American teachers participate in workshops and short-term professional development at similar levels as teachers in OECD nations, the United States is far behind in several respects. The nation lags in providing public school teachers with chances to participate in extended learning opportunities and productive collaborative communities in which they conduct research on education-related topics; to work together on issues of instruction; to learn from one another through mentoring or peer coaching; and collectively to guide curriculum, assessment, and professional learning decisions.

These findings lead to two major questions: How can states, districts, and schools build their capacity to provide high-quality professional development that is effective in building teacher knowledge, improving their instruction, and supporting student learning? And how can they assess the impact of their efforts over time?

Future studies contributing to NSDC's *The Status of Professional Learning in the United States* research initiative will help educators and policymakers answer these questions. The next study will use a national survey to measure the effectiveness of professional learning at the state level. The third study will look at states' professional development policies and practices and develop case studies that will deepen understanding among educators and policymakers of what it takes at the state and district levels to enact and implement policies that result in improved systems for teachers' professional learning.

Future studies will measure the effectiveness of professional learning at the state level and deepen understanding among educators and policymakers of what it takes to enact and implement policies that result in improved systems for teachers' professional learning.

Endnotes

1 Yoon et al., 2007

2 Yoon et al., 2007

3 Garet et al., 2008

4 National Mathematics Advisory Panel, 2008

5 Stein, Smith, and Silver, 1999

6 Knapp, 2003; Cohen & Hill, 2001; Desimone et al., 2002; Garet et al., 2001; McGill-Franzen et al., 1999; Supovitz, Mayer & Kahle, 2000, Weiss & Pasley, 2006

7 Corcoran, McVay, & Riordan, 2003; Supovitz & Turner, 2000; Banilower, 2002

8 Garet et al., 2001

9 Snow-Renner & Lauer, 2005; Carpenter et al., 1989; Cohen & Hill, 2001; Garet et al., 2001; Desimone et al., 2002; Penuel, Fishman, Yamaguchi, & Gallagher, 2007; Saxe, Gearhart & Nasir, 2001; Supovitz, Mayer & Kahle, 2000

10 Garet et al., 2001

11 Blank, de las Alas & Smith, 2007; Carpenter et al., 1989; Cohen & Hill, 2001; Lieberman & Wood, 2001; Merek & Methven, 1991; Saxe, Gearhart & Nasir, 2001; Wenglinsky, 2000; McGill-Franzen et al., 1999

12 Merek & Methven, 1991

13 Ball & Cohen, 1999; Dunne, Nave & Lewis, 2000; Little, 2003

14 Strahan, 2003

15 Elmore & Burney, 1997; Cohen & Hill, 2001; Garet et al., 2001; Penuel, Fishman, Yamaguchi, & Gallagher, 2007; Supovitz, Mayer & Kahle, 2000

16 Supovitz, Mayer, & Kahle, 2000

17 Reconfirming the conclusion of a seminal study by Lortie, 1975

18 Hord, 1997; Joyce & Calhoun, 1996; Louis, Marks & Kruse, 1996; McLaughlin & Talbert, 2001; Newman & Wehlage, 1997; Successful California Schools, 2007

19 Newman & Wehlage, 1997

20 Bryk et al., 1999; Calkins, Guenther, Belfiore, & Lash, 2007; Goddard, Goddard & Tschannen-Moran, 2007; Louis & Marks, 1998; Supovitz & Christman, 2003

21 Dunne, Nave & Lewis, 2000

22 Lustick & Sykes, 2006; Sato, Chung, & Darling-Hammond, 2008; Vandevoort, Beardsley, & Berliner, 2004

23 Louis, Marks & Kruse, 1996

24 Showers & Joyce, 1996; Neufeld & Roper, 2003; Knight, 2004; Kohler, Crilley, Shearer, & Good, 1997

25 Veenman, Denessen, Gerrits, & Kenter, 2001

26 Gutierrez, Crosland, & Berlin, 2001

27 Norton, 2001

28 Blachowicz, Obrochta, & Fogelberg, 2005

29 Schwartz & McCarthy, 2003

30 Lyons & Pinnell, 2001

31 Deussen et al., 2007

32 Ingersoll & Kralik, 2004

33 Cheng & Brown, 1992; Odell & Ferraro, 1992; Suphler & Zetler, 1995; Henke et al., 2000; Fuller, 2003

34 Bartell, 1995; Smith & Ingersoll, 2004; Olebe, 2001

35 Wang, Odell, & Schwille, 2008

36 Glazerman et al., 2008

37 NCTAF, 1996; OECD, 2007

38 Kang & Hong, 2008

39 OECD, 2004

40 OECD, 2004

41 NCTAF, 1996

42 OECD, 2007

43 Fernandez, 2002; Pang, 2006; Barber & Mourshed, 2007

44 Fernandez, 2002

45 Fernandez, 2002

46 NCTAF, 2005

47 Britton, 2006

48 Clement, 2000

49 OECD, 2005; Barber & Mourshed, 2007

50 Barber & Mourshed, 2007

51 OECD, 2005

52 Stansbury & Zimmerman, 2000

53 Hargreaves, Halász, & Pont, 2007; Välijärvi et al., 2007

54 Ahlstrand, 1994

55 Ronnerman, 1996

56 Alhstrand, 1994

57 Tripp, 2004; Salleh, 2006

58 Tripp, 2004; Salleh, 2006

59 Tripp, 2004

60 OECD, 2005; Barber & Mourshed, 2007

61 OECD, 2005

62 Ronnerman, 2008

63 Kang & Hong, 2008

64 Barber & Mourshed, 2007; Fullan, 2007b; Earl, Watson, & Torrance, 2002

65 Fullan, 2007b; Earl, Watson, & Torrance, 2002

66 Earl, Watson, & Torrance, 2002

67 Skilbeck & Connell, 2003; Atelier Learning Solutions, 2005

68 This data set is the most recent nationally representative, large scale survey on teachers' professional development available. The 2007-08 survey was being administered at the time this report was being compiled but the data will not be available for another year or more.

69 Blank, de las Alas, & Smith, 2007

70 Garet et al., 2001

71 Garet et al., 2001

72 On a survey item in the 2003-04 SASS Teacher Questionnaire in which teachers were asked to indicate their top priorities for further professional development, content-related professional development was listed most commonly (23 percent of teachers) as the top priority, followed by classroom management (18 percent), teaching students with special needs (15 percent), and using technology in the classroom (14 percent).

73 CCSSO, 2003

74 Hall, 2005

75 *EdWeek*, 2008

76 These findings are consistent with prior research on the benefits of subject-specific mentoring (Hudson, 2004; Feiman-Nemser and Parker, 1990) and with current practice in induction programs in high achieving nations.

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Sponsor

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