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# **Evaluation of the California Subject Matter Projects (CSMP)**

## **FINAL REPORT**

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## EXECUTIVE SUMMARY

Since 1988, California has invested in a discipline-based system for the professional development of teachers: the California Subject Matter Projects (CSMP). Administered by the University of California Office of the President (UCOP), the CSMP consist of a network of nine Projects, each of which supports a number of regional sites housed on university campuses throughout California. This report presents findings from a 2-year evaluation of the CSMP.

The CSMP provide content-focused professional development to teachers, develop teacher leadership, and create and maintain discipline-specific networks of teachers and university faculty. Each Project's work is based on the state's standards or frameworks in that subject area, with the goal of supporting teachers to improve their students' attainment of the standards.

With a consistent focus on high-quality support for teachers, the CSMP have evolved over time to meet the needs of teachers and the goals of state policymakers. Since 1998, state legislation has focused the CSMP on teachers with the most need: those in low-performing schools and those working with English learners. Responding to federal priorities set forth in the No Child Left Behind Act (NCLB), the CSMP also provide professional development for teachers who need to achieve "highly qualified" status, and serve and support schools that have missed their targets for adequate yearly progress (AYP) under the federal law.

### Evaluation Overview and Data Collection

This evaluation, mandated under AB 2950 (2002, Strom-Martin) and SB 611 (2003, Ducheny), documents the following issues:

- The response of the CSMP to the current policy context
- The scope and scale of CSMP activities
- The nature of the professional development provided by the CSMP
- The impact of the CSMP on teachers' abilities to provide high-quality, standards-based instruction in specific content areas
- The relationship between CSMP participation and student achievement

The 2-year evaluation comprised interrelated data collection activities, including a review of prior research, analysis of internal data files, observations of Science Project professional development, interviews with Project executive directors, interviews with Science Project site

directors, surveys of site leaders and participating teachers, case studies of participating teachers, and a student achievement analysis (see Exhibit ES–1).

### Exhibit ES–1 Evaluation Activities

Year 1 2004	Year 2 2005
<ul style="list-style-type: none"> <li>• Review of prior research conducted on the CSMP</li> <li>• Review of CSMP internal data files</li> <li>• Observations of professional development provided by the California Science Project</li> <li>• Interviews with Project executive directors</li> <li>• Interviews with Science Project site directors</li> <li>• Survey of site leaders</li> </ul>	<ul style="list-style-type: none"> <li>• Review of prior research conducted on the CSMP</li> <li>• Review of CSMP internal data files</li> <li>• Interviews with Project executive directors</li> <li>• Survey of participating teachers</li> <li>• Case studies of participating teachers</li> <li>• Case study of student achievement in mathematics</li> </ul>

In this summary, we provide an overview of the evaluation’s key findings.

#### Impact of Budget and Policy on the CSMP

The CSMP have had to respond to a rapidly changing policy context during the past few years. California’s most recent budget crisis, the state’s new accountability systems for schools and students, and new federal requirements associated with NCLB have forced some significant changes in the CSMP.

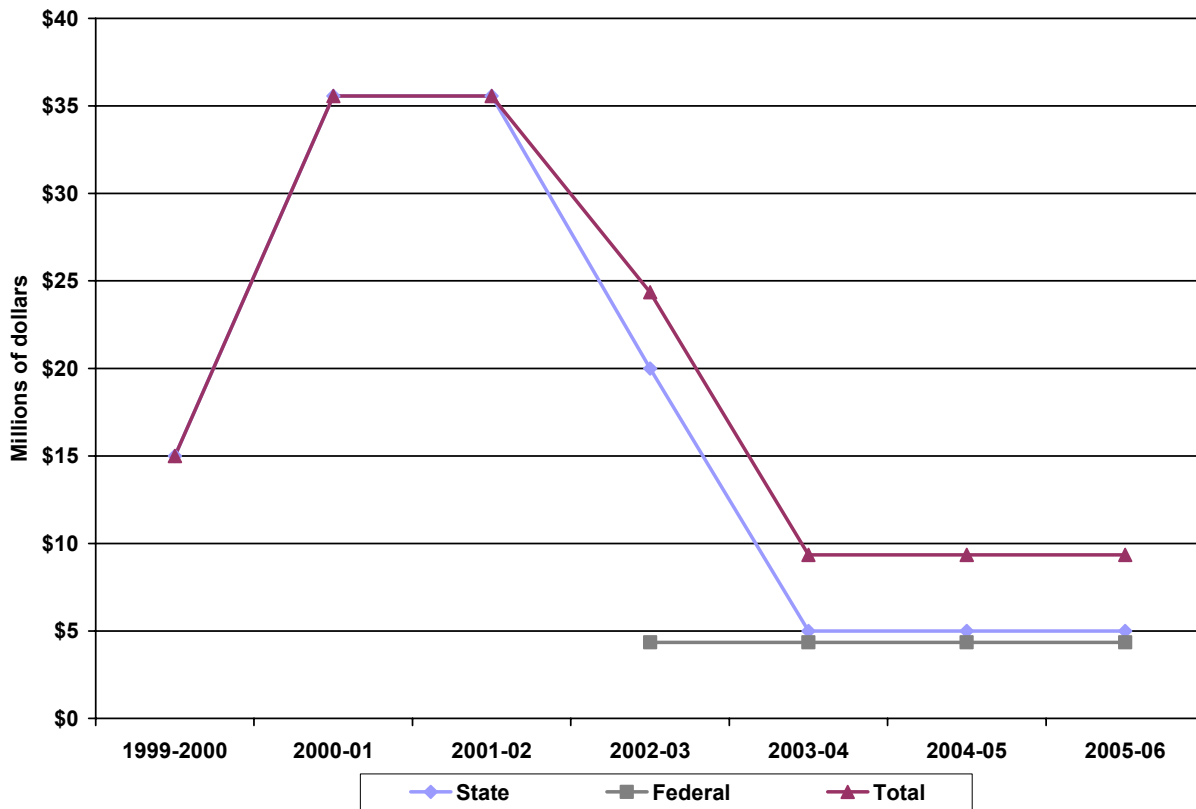
► **Funding for the CSMP has dropped considerably.**

From 1999–2000 to 2003–04, the Projects’ budget fluctuated widely, more than doubling from \$15 million to \$35 million and then dropping to under \$10 million (see Exhibit ES–2). Since 2002–03, state support for the CSMP has been supplemented by federal dollars.

► **Because of the decline in funding, the Projects had to reduce the number of sites, cut back on staff in existing sites, and reduce stipends for teachers.**

The decline in funding for the CSMP from its height in 2001–02 affected the Projects in many ways. With fewer dollars, the Projects reduced the number of sites they supported from 129 to 107 from 2000–01 to 2004–05, with most of the reduction taking place in 2002 and 2003. Sites reduced staff, sometimes to a skeleton full-time crew or a few people working part-time. That change, in turn, reduced sites’ ability to provide services to teachers and partner districts. Further, recruiting challenges increased as site staff were increasingly unable to offer teacher stipends.

**Exhibit ES-2  
CSMP Funding: 1999–2006**



Data Sources: UCOP (2003, 2004a, 2005a).

- **To bolster capacity, the Projects and sites sought external funding from federal and state programs and “fee-for-service” from the districts they served.**

The majority of sites (65%) reported writing more proposals for supplementary grants in 2003–04 than they did in 2001, and 16% reported writing the same amount of grants as in 2001. Fortunately, some Projects had opportunities for external funding through federal programs such as Reading First, the Teaching American History Grants Program (TAH), and the Mathematics and Science Partnership (MSP). However, the increased effort to garner support from supplementary grants did not, in most cases, make up for the loss of state funds. Regardless of their ability to attract external funds, most sites in all nine Projects began to charge districts directly for their services. Seeking funds from external sources and from districts directly may make the CSMP more responsive to their clients, but it also raises challenges of maintaining a high-quality product that meets all customers’ needs.

► **Changes in federal and state accountability policies have affected CSMP operations.**

California's standards-based accountability system reshaped the Projects' traditional focus on teacher leadership and volunteer participation to its current partnership approach targeted on low-performing schools. The accountability system's emphasis on testing some subjects but not others meant that districts were less likely to pay for professional development in nontested subjects.

NCLB added a federal layer of accountability policies over California's existing system. NCLB seeks to improve student achievement by setting minimum nationwide standards for teacher qualifications and levying federal sanctions on schools with low and stagnant performance. The CSMP have responded to both of these key provisions by supporting teachers in becoming "highly qualified" and providing assistance to low-performing schools.

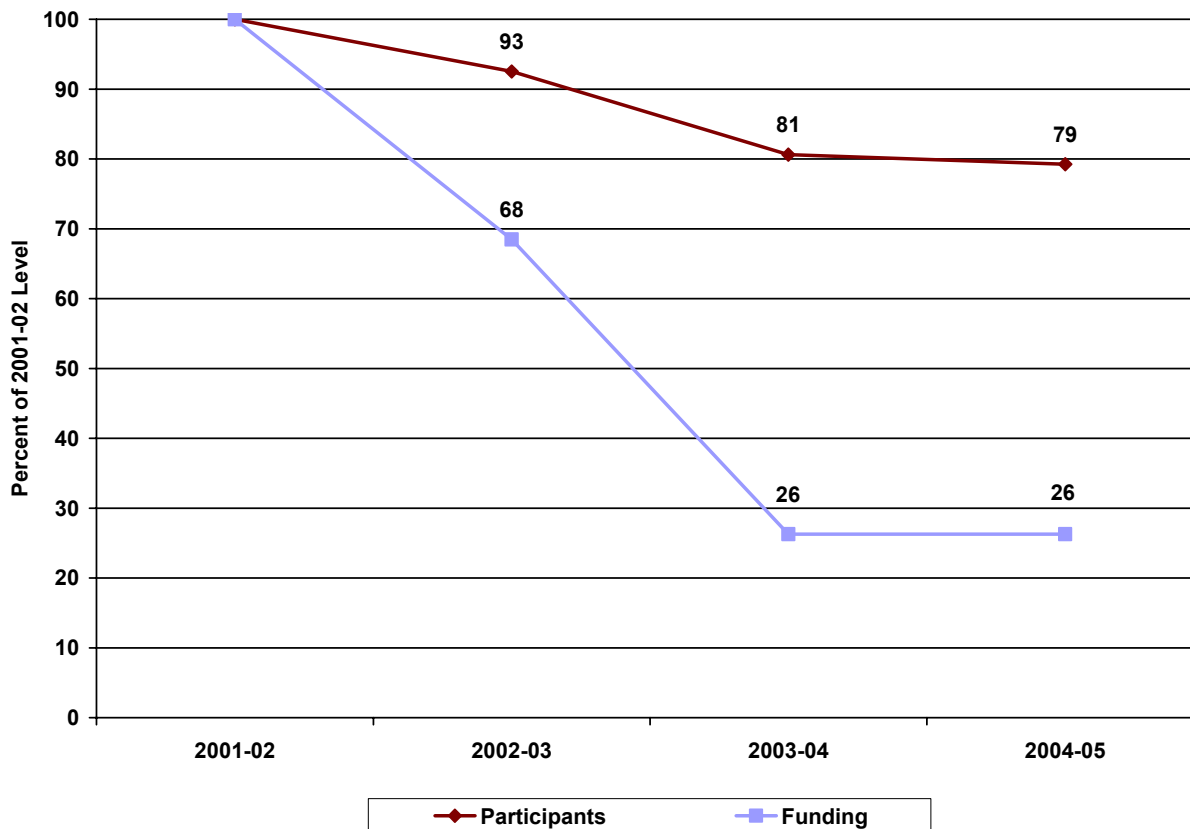
### **Scope and Scale of the CSMP**

Given the challenging policy context in which they operated, the CSMP were able to serve significant numbers of California teachers. In addition, the CSMP were successful in their efforts to serve teachers from low-performing schools and teachers of English learners.

► **Although the number of CSMP participants has dropped due to budget reductions, the CSMP still serve large numbers of participants.**

Coinciding with a reduction of funding from \$35 million to under \$10 million in combined state and federal dollars, the CSMP served fewer participants each year since 2001–02. At their height in 2001–02, the CSMP served 57,089 participants; by 2004–05, that number dropped to 45,245, a 21% reduction. It is important to note, however, that this drop in participants is much lower than the overall reduction in state funding. Exhibit ES–3 shows that while the CSMP is currently receiving only 26% of the amount of state funds it received in 2001–02, it is serving 79% of the number of participants it served in that year. Some of the difference was made up by external grant writing and fee-for-service work, however, sites varied in their successes at these endeavors.

**Exhibit ES-3  
Decline in CSMP Funding and Participants, 2002–2005, Compared to 2001**



Data Sources: UCOP (2005a); OIS (2005).

- **Consistent with the Projects’ commitment to serving the entire state, CSMP teacher participants generally reflect teachers statewide with regard to years of experience and grade level.**

The Projects serve teachers at all stages of their careers, from novice teachers to very experienced teachers with more than 20 years in the classroom. Similarly, with regard to school level, CSMP teacher participants also roughly reflect the California teacher workforce as a whole.

- **The CSMP have successfully reached teachers who teach English learners and/or work in low-performing schools.**

In 2004–05, 92% of CSMP teacher participants reported having at least one English learner in their classes; in contrast, a 2003 statewide survey reported that 87% of teachers statewide have English learners (Shields et al., 2003). Twenty percent of CSMP teacher participants reported having 80% or more English learners in their classes. These data suggest that the CSMP has effectively targeted teachers of English learners.

Over the past few years, CSMP has focused its work more on low-performing schools. Specifically, the CSMP targeted teachers working in schools ranked 1 to 4 on the state's Academic Performance Index (API). According to UCOP's Online Information System (OIS), in 2004–05, almost half (49%) of CSMP teacher participants were employed in low-performing schools, compared to 43% of teachers who are employed in low-performing schools statewide.<sup>1</sup>

- ▶ **Although the CSMP do not attract a higher proportion of underprepared teachers than exists in the state's teacher population, the CSMP do provide content knowledge not attained through undergraduate degrees or teacher preparation programs.**

Across the state, 96% of teachers are subject-matter competent according to NCLB standards and thus are considered highly qualified. The percentage among CSMP teacher participants in 2004 was virtually identical, suggesting that the CSMP did not attract a much higher proportion of underprepared teachers than exists in the population. The CSMP does, however, help teachers master subject matter as well as how to teach it. Because college content courses do not necessarily align with California's K–12 content standards, teachers who have an undergraduate major in a subject may lack some relevant knowledge, hindering their ability to teach subject matter in depth. Consequently, even teachers who meet the state's definition of "highly qualified" turn to the CSMP to improve their content knowledge.

## **Nature of CSMP Professional Development**

Responding to budgetary constraints and accompanying district preferences, the CSMP shifted its professional development offerings.

- ▶ **The number of institutes declined and the number of inservice workshops increased.**

The CSMP provide professional development through many formats. However, with the shift toward more fee-for-service arrangements, encouragement for more district partnerships, and greater focus on low-performing schools, the mix of CSMP activities is shifting from institutes (that tend to last one week or more) and toward inservices (that are frequently of shorter duration). Since 2001–02, the percentage of teachers served in both institutes and follow-up to those institutes have decreased; in contrast, the percentage of teachers participating in inservice workshops has increased from 20% to 43%.

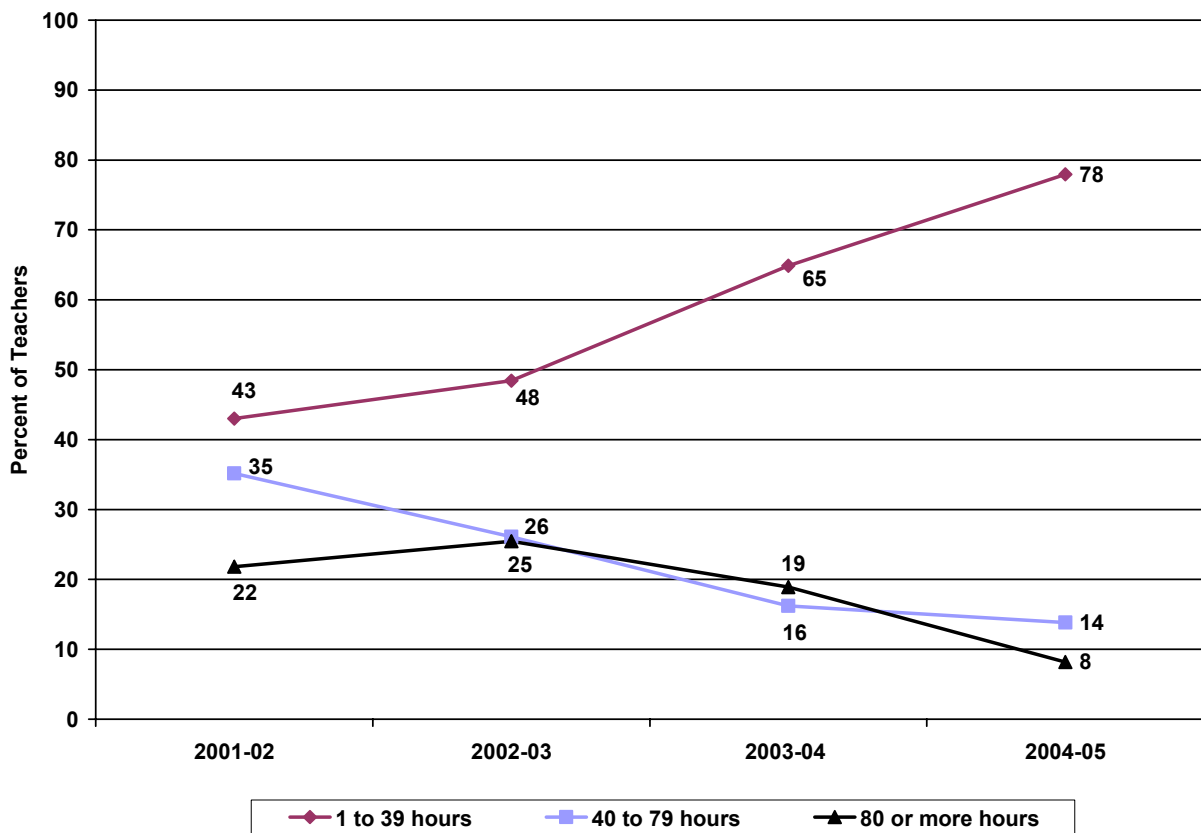
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<sup>1</sup> Fourteen percent of teacher respondents were in schools with missing API rank information.

► **Total contact hours of the CSMP with teachers has decreased over time.**

Consistent with the trend toward less focus on institutes (with a median of 40 hours in length) and more on inservices (with a median of 8.5 hours in length), the total contact hours with teachers has decreased over time. Exhibit ES-4 shows that the percentage of participants who were involved for less than a full week (1 to 39 hours) increased from just over 40% to nearly 80%. At the same time, the percentage of teachers receiving 80 hours or more of professional development dropped from 22% to 8%.

**Exhibit ES-4  
Distribution of the Number of Yearly Contact Hours per Teacher, 2001-2005**



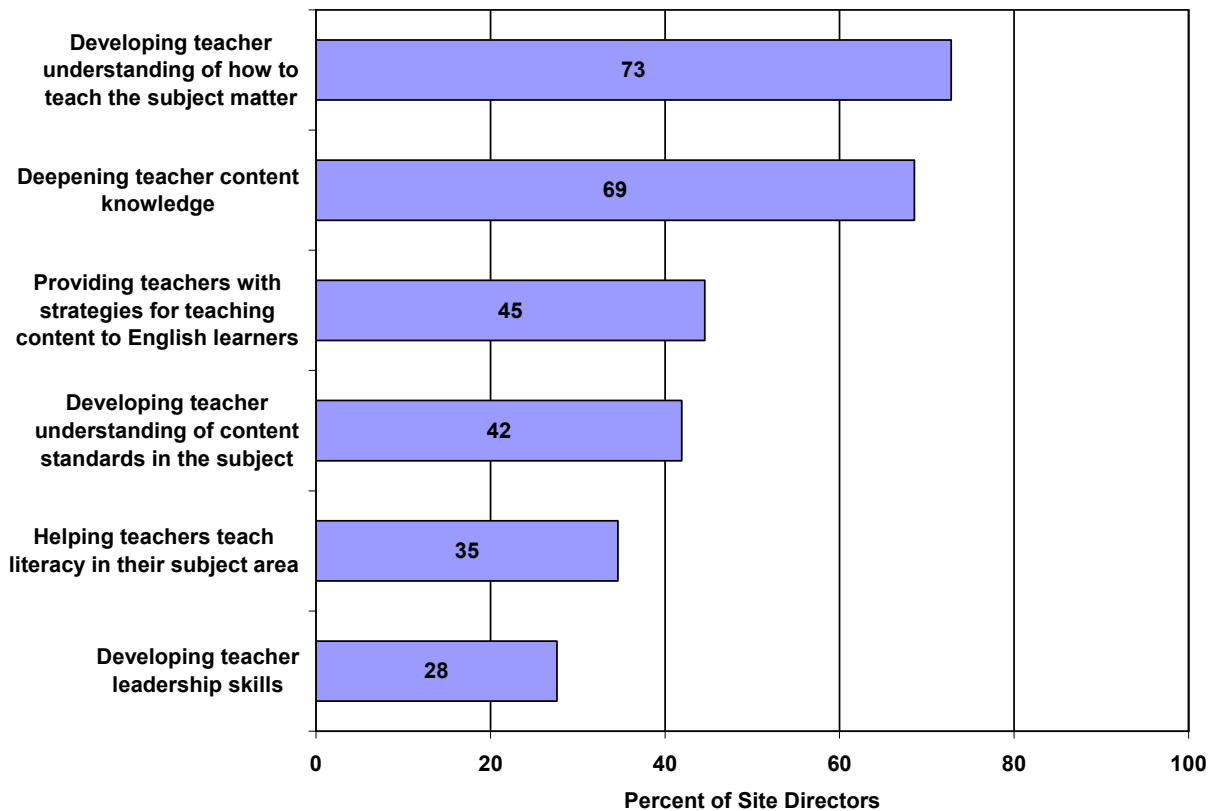
Data Source: OIS (2005).

► **Despite other changes, CSMP priorities have not changed over time; improving teachers' content knowledge and their ability to teach that content remain top priorities.**

Despite changes in the structure and duration of CSMP-supported professional development, the basic content of the work has remained unchanged from what has been reported in previous studies (St. John, 1996; Quick, Lieberman, Farr, Cole, Wang et al., 2002). Site directors

identified improving teachers’ content knowledge and their ability to teach that content as their top two priorities (see Exhibit ES–5). Consistent with the clear policy direction set out in UCOP’s 2001 RFP, a focus on improving the teaching of English learners and teaching to standards was also described as central to the CSMP goals. Teachers’ reports of the content of professional development was consistent with these patterns.

**Exhibit ES–5  
Site Directors’ Reports of Their Top Three Priorities**



*Data Source: CSMP Site Director Survey (2004).*

► **The CSMP specifically focus on English learners.**

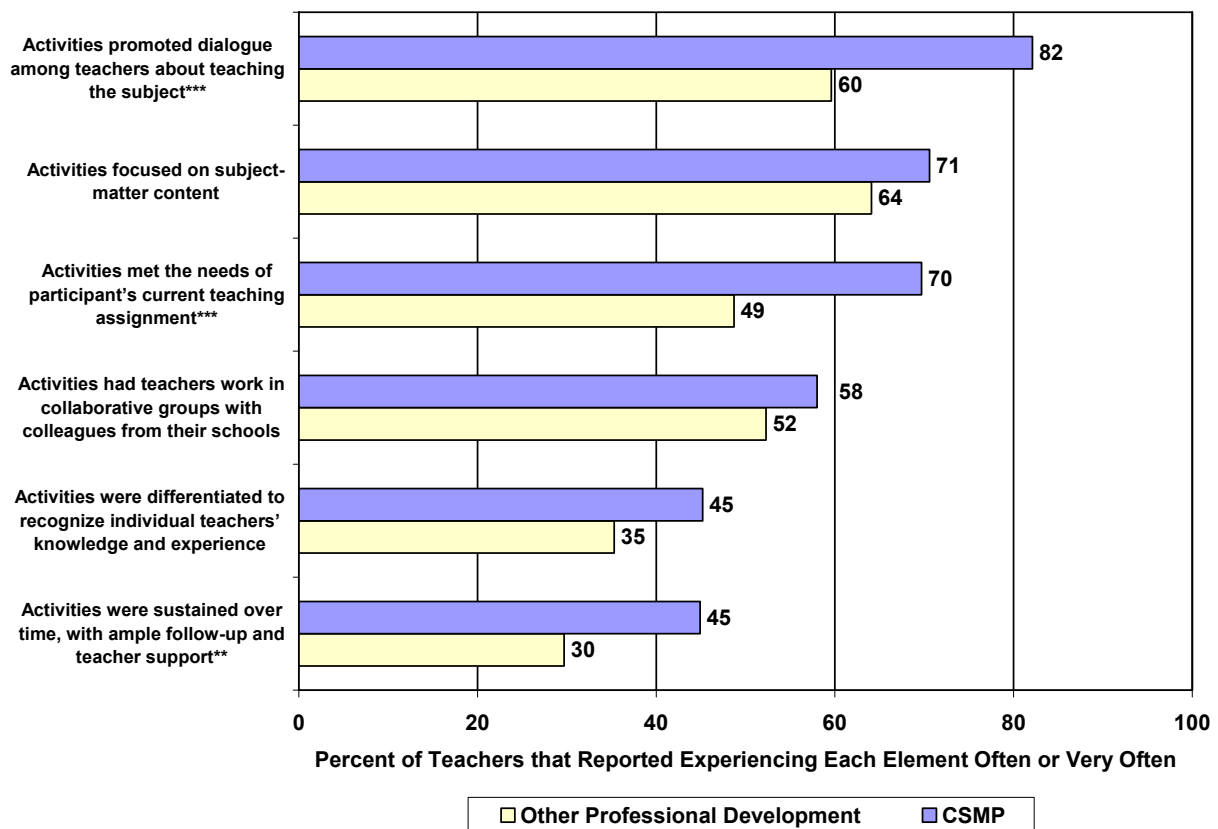
The CSMP have offered events that address teaching English learners in the content areas and, more broadly, teaching literacy in the content areas. The majority of site directors (91%) reported that they frequently or very frequently offer professional development designed to help teachers teach their subject area to English learners. And teachers reported that their CSMP participation contributed significantly to their understanding of how to address the needs of English learners. Over 80% of CSMP participants agreed that CSMP participation taught them

how to teach subject matter to English learners and students with varying skill levels, and how to address literacy through content-area instruction.

► **CSMP professional development generally reflects the characteristics of effective professional development.**

Previous research has identified characteristics of effective professional development, including collective work, content focus, active learning, differentiation, and ongoing activities that are sustained over time. In general, teacher participants report that CSMP professional development reflects these characteristics. Moreover, teachers consistently rate CSMP professional development more highly than other professional development (see Exhibit ES–6).

**Exhibit ES–6**  
**Prevalence of Elements of High-Quality Professional Development**  
**in CSMP and Other Professional Development Activities**



\*\*\* $p < 0.001$ , \*\* $p < 0.01$

Data Source: CSMP Teacher Survey (2005).

Teachers were considered to have received “high-quality” professional development if they reported, on average, that their professional development at least often reflected each of the

characteristics of high-quality professional development. Based on this measure, 42% of CSMP participating teachers reported receiving high-quality professional development.

## **The Effects of the CSMP**

### **► Teachers reported that the CSMP influenced their instructional practices and content knowledge.**

The ultimate goal of the CSMP is to improve student learning by improving teachers' skills and knowledge and thus their practice. When we asked teachers about the contributions of the CSMP to their instructional practices and their content knowledge, nearly all teachers reported benefits. Overall, 84% of teachers reported that their participation had a moderate or major influence on their practice. The vast majority of teachers believe the CSMP made specific contributions to various aspects of their instructional practice and content knowledge.

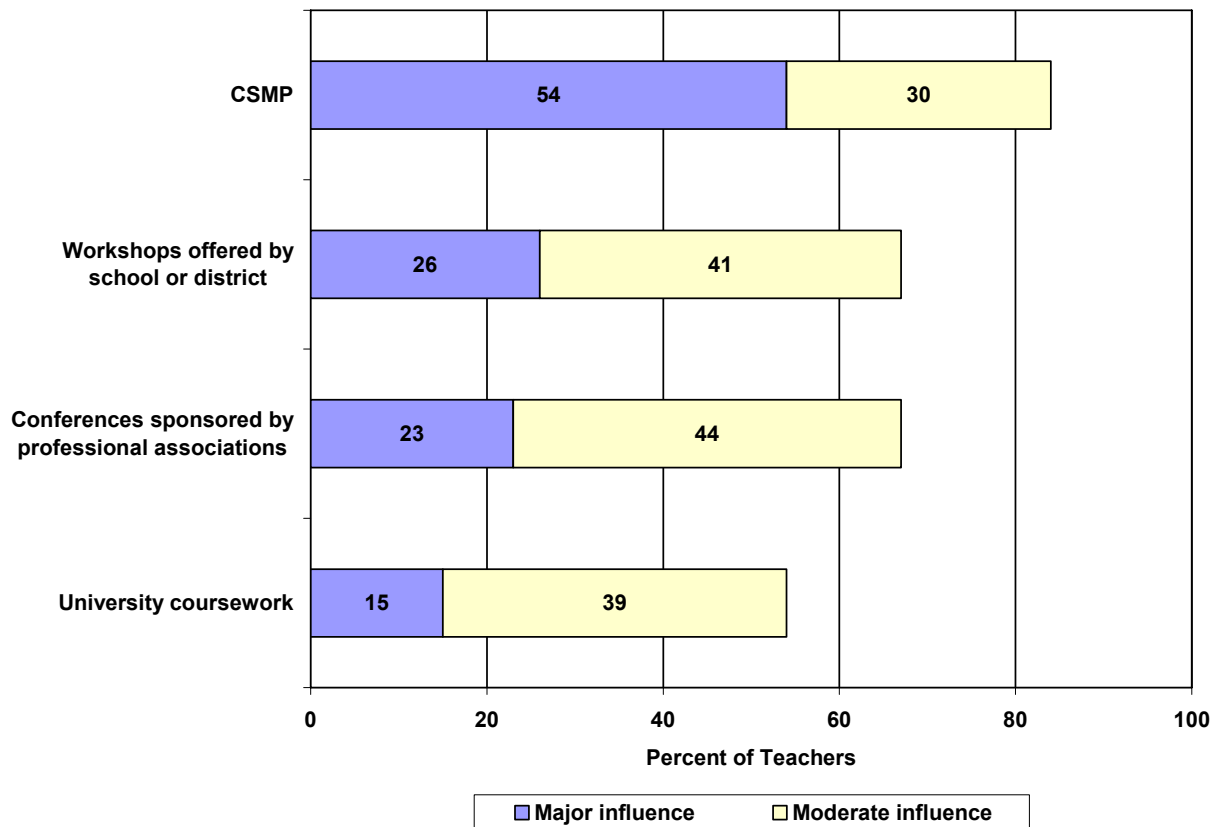
### **► Teachers reported that the CSMP influenced their instruction more than other professional development.**

Teachers who participated in the CSMP also participated in other professional development in the same subject. CSMP participants reported receiving beneficial professional development from all sources; however, in the aggregate, teachers reported that the CSMP had a greater influence on their classroom instruction than professional development from other sources (see Exhibit ES-7).

### **► CSMP teachers who received high-quality professional development reported more benefit than CSMP teachers who did not.**

We found some variation in the quality of professional development offered by the CSMP. An analysis comparing CSMP participating teachers who received high-quality professional development from those CSMP participants who did not showed that teachers were more likely to report that the CSMP affected their content knowledge and pedagogical skills to a moderate or great extent if they received high-quality professional development. Importantly, these teachers also reported being more capable of adjusting instruction to meet diverse learners' needs, building literacy skills, and working with English learners.

**Exhibit ES-7  
Teachers' Reports of the Influence of the CSMP and Other Professional Development on Instruction**

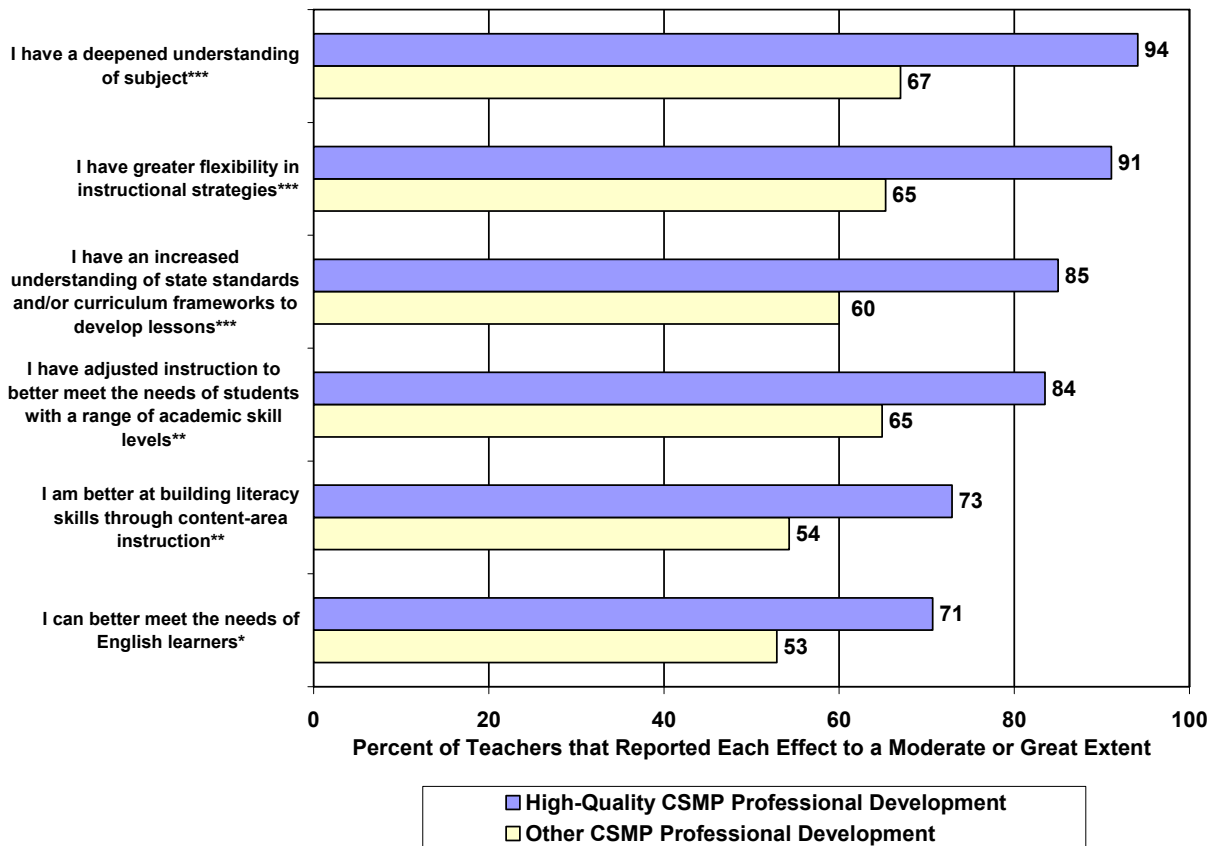


*Data Source: CSMP Teacher Survey (2005).*

**► Teachers reported that participation in the CSMP contributed to student learning.**

Teachers believed that their participation in CSMP professional development led to improvements in student achievement. The vast majority of teachers reported that their participation in the CSMP benefited students' conceptual understanding, engagement in activities, and ability to explain their reasoning. Teachers also reported beneficial outcomes for English learners or students who need to improve their literacy skills (see Exhibit ES-8).

**Exhibit ES–8**  
**Characteristics of High-Quality Professional Development Related to Improved Instructional Practices and Content Knowledge**



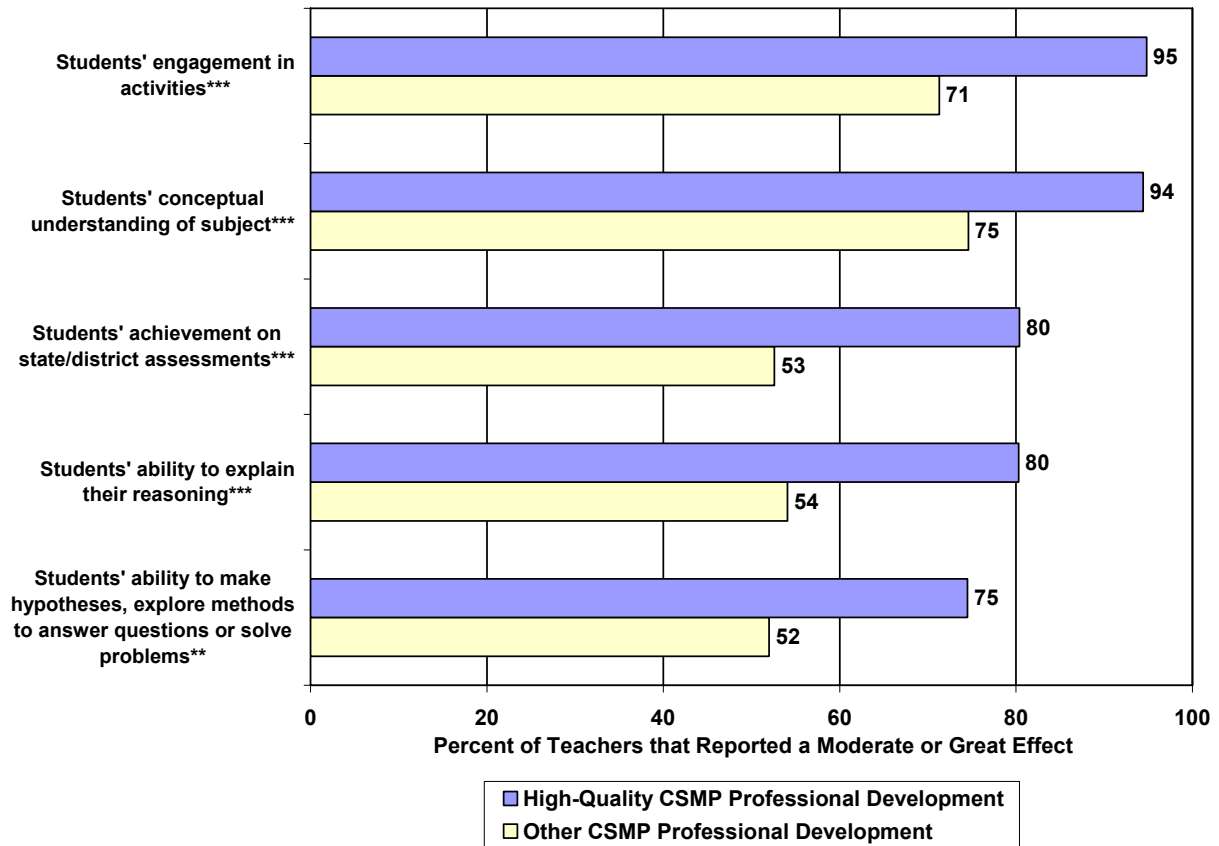
\*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$   
 Data Source: CSMP Teacher Survey (2005).

Teachers who received high-quality professional development from the CSMP were more likely than other teachers to report that their participation affected student achievement on standardized tests (see Exhibit ES–9).

- **We do not find an overall relationship between teacher participation in the Mathematics Project and student mathematics performance; however, teacher participation seems to benefit English learners in the fifth grade.**

Our analyses of student achievement in grades 3, 4, and 5 show that students’ prior achievement is overwhelmingly the best predictor of end-of-the year achievement. Across all grade levels, having a teacher who participated in the Mathematics Project is not a significant predictor of student performance. In fifth grade, however, where English learner status is more negatively associated with mathematics achievement (compared to earlier grades), teachers’ participation in the Mathematics Project seems to benefit English learners.

**Exhibit ES-9**  
**Relationship between the Quality of CSMP Professional Development and Reported Effects on Student Outcomes**



\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$

Data Source: CSMP Teacher Survey (2005).

► **Teachers face both institutional and individual barriers to implementing CSMP training.**

To achieve the desired impacts, teachers have to be able to implement what they learn from CSMP participation once they return to their schools and classrooms—which can be challenging in some cases. Teachers face institutional barriers in their schools that restrict their ability to implement what they learned through their participation in the CSMP. Specifically, teachers reported that accountability pressures, insufficient planning time, and insufficient class time to cover the subject were barriers to implementing what they learned through the CSMP. In addition, the specific backgrounds, existing skills and knowledge, and previous practices of the participating teachers play an important role in the effective implementation of the approaches taught by the CSMP.

► **As the CSMP move forward, they face three major challenges:**

- (1) maintaining high-quality professional development while responding to changes in funding,
- (2) meeting the needs of an increasingly diverse set of teacher participants, and
- (3) managing the differential impact of accountability policies on the Projects.

Each of these challenges presents opportunities. Providing fee-for-service designed to address specific district needs offers the CSMP the opportunity to closely integrate their work with district and school reforms. The focus on all teachers in low-performing schools puts the CSMP in place to help the teachers and students who are most in need. The accountability focus shines light on the work of the Projects and opens doors for resources from other sources beyond the state.

So far the CSMP have adapted to the new environment and made progress in meeting these challenges—as evidenced by the teachers they are reaching, the partnerships formed, and the quality of their work. But these challenges will only intensify in the future. Even with a reasonably stable base of funding, the CSMP will continue to grapple with the balance between their traditional delivery of high-quality professional development and the short-term demands of districts and schools. They will have to find a way to meet the needs of a wide array of teacher participants without watering down their professional development to the point that it becomes indistinguishable from that of other providers. Finally, they will need to take advantage of the accountability focus in a few subject areas while maintaining professional development that covers the full curriculum.