Promising New Teacher Support Strategies and Their Costs

By Marcella R. Dianda & Karen Hunter Quartz

The California New Teacher Project (CNTP) encouraged school districts to compete for special state funding by proposing models of new teacher support individually or in collaboration with others. Often, collaborators were colleges and universities. In fact, 80 percent of the proposals submitted in the first year of the CNTP were school district-university collaborations (Morey, 1990). During the third year, 16 colleges and universities contributed in various capacities to the local induction projects. University participants included California State University and University of California campuses as well as private colleges. College and university staff and faculty were project administrators, trainers, classroom observers, new teacher mentors, subject-matter experts, and technical advisors on telecommunications technology.

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In this article, we describe several promising new teacher support strategies universities and their district partners implemented. We also discuss the resources expended to implement each strategy using an economic approach that has been applied to

other kinds of educational programs (Levin, 1983), but to our knowledge, not to new teacher support efforts. When studies have attended to induction costs (see Defino & Hoffman, 1984; Griffin, 1987), they have focused on limited budgetary costs, and as a result, have not provided a sense of the total effort needed for successful new teacher support. We begin by framing new teacher support strategies according to their programmatic and economic dimensions. Discussions of specific induction strategies and their associated costs, in terms of monetary and other resources, follow. We conclude with strategies that make the most sense economically and therefore might be of greatest interest to teacher educators and the local educators with whom they structure successful partnerships on behalf of new teachers.

Framing New Teacher Support Dimensions and Associated Costs

As they began operation, the CNTP projects implemented each of the tasks listed in Table 1 under the three program dimensions to which resources were allocated: support, training, and project administration. Projects selected, assigned, and compensated experienced teachers who assisted beginning teachers; designed staff development opportunities for new teachers; and structured time during the school day and school year for support and training activities. In addition, projects made decisions related to effectively administering those activities.

While the teacher induction literature provides some guidance about how best to implement these tasks (see, for example, Kennedy 199l; Little, 1990; Zimpher, 1988), as a practical matter local project planners were forced to decide on reasonable approaches relative to their local contexts and available resources. These decisions resulted in differences in the "intensity"—the scope, timeliness, relevance, and/or frequency—with which the projects carried out each support, training, and administrative task. We array the least and most intense implementations in Table 1. Because our purpose is to suggest high quality or promising strategies, we focus primarily on more intense implementation within each dimension, and on associated costs. Strategies were judged more intense when they were associated with increased new teacher effectiveness, as measured by teachers' attitudes as well as observations of their performance (see Ward *et al*., 1990, 1992; Dianda *et al*., 1991).

In all cases, the projects augmented special state CNTP monies, which provided partial support with other state, university, and local funds. All the sources from which the projects received funding are listed under the project constituency column in the cost framework presented in Table 2. These sources included state funding agencies (primarily the two agencies administering the CNTP pilot), county offices of education, school districts, and colleges and universities.

However, the funding provided by these agencies only constituted a fraction

Table 1

Program Dimensions, Implementation Tasks, and Intensity of Implementation

Table 2

Key Cost Considerations Associated with the Delivery of New Teacher Support

of the actual resources required to provide new teacher support services. Therefore, the economic framework used in our study of the CNTP considers more than the actual dollars arrayed in project budgets. First, it provides an accurate picture of expended resources through the notion of opportunity costs (Levin 1983). Opportunity costs are a different way of thinking about the cost of any program or intervention, including new teacher induction. They enable program planners and those who evaluate induction programs to represent the actual level of effort required to deliver new teacher services. More specifically, opportunity costs provide a means of calculating the full value of project participants' time in terms of the most valuable alternative use of that time. This is especially important because, as with most programs, project participants' time is the most significant ingredient associated with delivering new teacher services.

Second, the economic framework provides an accurate picture of expended resources through a broadened vision of project constituencies by including those who invest uncompensated or volunteer hours in new teacher support activities. These constitutencies included project participants, such as teachers, university staff, and students in the schools in which teachers in the CNTP taught. Each constituency helped bear the cost of project implementation. Students bore some of the burden of induction efforts when their teachers were released for support and training activities. On those occasions, students gave up the opportunity for regular classroom instruction. This opportunity cost was part of the total effort required to run the CNTP projects. And when teachers and others attended such support

training activities after school or on weekends without compensation, they contributed their time. That contribution is calculated as the most valuable alternative use of their time, or, in terms of their regular compensation during the school day. Overall, then, the economic framework considers investments in a new teacher support projects by volunteers (uncompensated time by project participants) and students (interrupted instructional time) as well as financial resources invested by various funding sources.

In the following sections, we apply these programmatic and economic frameworks as we discuss the characteristics and costs of promising strategies. We begin with new teacher support strategies. Our focus is only on costs related to the provision of new teacher support services. Assessments of new teachers are not considered because they were not part of the CNTP projects. If programs involve such assessments, associated costs need to be considered.

New Teacher Support Strategies

Generally, the new teacher support projects structured new teacher support by pairing a new teacher with an experienced educator. However, within this prevailing practice, there was considerable variability with respect to how the experienced educators were selected and trained for this support role, and compensated for the time they spent assisting their assigned new teacher. The CNTP projects also differed in the degree to which they instituted mechanisms to increase the new and experienced educators' access to their partner teacher.

In a few projects, faculty from the college's or university's school of education coached new teachers. Such relationships were consultative rather than supervisory or evaluative. Most often, consultation by faculty augmented school-based one-on-one assistance by Mentor Teachers or other experienced teachers. In most cases, a college or university faculty member consulted with 15 to 25 new teachers.

Across all three years of the CNTP, university involvement generally was restricted to faculty from the preservice preparation program, either by design or because it proved difficult to draw upon the expertise of wider university faculty (Morey & Murphy, 1990). Still, wider university faculty's involvement with secondary teachers did occur, especially in the sciences where the faculty members' content expertise was particularly valuable. In one project, for example, physics and biology faculty from the university provided supplies, lent and repaired equipment for science teachers, and helped new teachers set up science demonstrations for their students (Waters *et al*., 1990).

Selecting and Assigning Experienced Support Providers

The induction literature urges those who plan new teacher programs to select experienced support providers who are themselves master teachers, who are able to understand and work with novice colleagues (Shulman, 1986; Zimpher & Rieger,

1988; Ruskus, 1988; Kennedy, 1991). Most of the CNTP projects actively recruited veteran teachers who had the experience and motivation required to assist new teachers. Projects developed formal lists of support teachers' duties and responsibilities, specified selection criteria, and sought teachers who met these qualifications. Four strategies were commonly used to identify highly qualified experienced support teachers.

First, the projects selected California Mentor Teachers, individuals who had, by virtue of their designation as Mentors, demonstrated effective communication skills, subject matter knowledge, and mastery of a range of teaching strategies (Wager, 1985). The Mentor Teacher Program operated in many of the school districts involved in the CNTP. If Mentors did not provide one-on-one support to new teachers, they conducted demonstration lessons and workshops, observed new teachers' instruction and provided feedback, and/or provided new teachers with materials and resources.

Second, some projects used experienced classroom teachers who were selected through a competitive process and released full time from their classroom duties to support new teachers. Assigned to assist up to 15 new teachers across school sites, these experienced teachers were readily available to their assigned new teachers. They were able to visit new teachers' classrooms at least weekly and often more frequently, to accompany their assigned new teachers when they observed in others' classrooms, and to provide extra support as needed. To obtain their special assignment to assist new teachers, the experienced teachers underwent a rigorous screening process conducted by local administrators, teachers, and in some cases, teacher educators.

Third, a few projects created school-based teams of experienced educators who augmented the assistance provided by individual Mentors or experienced teachers. Members generally included an administrator, a California Mentor Teacher, and new teachers and their experienced support teachers. Meeting approximately monthly, the teams functioned as forums where members could reflect on their activities and engage in dialogues about teaching, the curriculum, and conditions at the school. Team members often kept journals and shared their journal entries at team meetings. This opportunity to exchange ideas and problem solve was facilitated by released time provided by the projects.

Fourth, one project recruited retired master teachers to augment the assistance new teachers received from experienced teachers at their schools. All the retired teachers had supervised student teachers prior to their retirement. Retired teachers visited their assigned new teachers frequently during the year, with each in-class visit averaging three hours (which was typically a longer block of time than was available to experienced teachers who taught full time during the school day).

Cost Considerations

Experienced teacher selection was associated with two kinds of costs. First,

there are costs in terms of the time spent evaluating potential candidates. Several projects developed elaborate systems to screen and select support teachers. This involved time by project, district, school, and, in some cases, university staff. Second, the opportunity costs of new teacher support by rigorously screened, and therefore presumably highly qualified, support teachers exceeded that of support by lesser qualified teachers.

The California Mentor Teacher Program provided projects with a ready-made core of master teachers, and served as a funding source in many projects. Projects used all or a portion of the annual Mentor Teacher stipends districts received from the Mentor Teacher Program to compensate Mentors. Even though the stipends Mentor Teachers received often were insufficient to cover the opportunity cost of the time they actually spent supporting new teachers, Mentor Teacher Program funds nonetheless served as a reliable funding source. In comparison, the second strategy, hiring expert teachers full time to assist new teachers, was costly. Projects that chose this strategy usually relied on a core of three to five support teachers who assisted all new teachers. Although costly, these were highly qualified individuals who had sufficient time to work with their assigned new teachers. A less costly alternative, school-based support teams, still required projects to secure funds for substitute teachers to ensure protected time for team meetings during the school day.

Although only one of the local projects used the fourth strategy, retired teachers as support providers, there were decided advantages. Not only were retirees enthusiastic about sharing their expertise with new teachers, their time was unencumbered compared to teachers with full-time teaching responsibilities. The project that used retired teachers compensated them by paying an annual consulting fee.

Training Experienced Teachers to Fill Their Support Role

Those who advocate training for experienced support teachers argue that classroom teaching provides little or no preparation to meet the special demands of this support role (Little, 1990; Wildman *et al*., 1989; Shulman, 1986). Within the CNTP, more rigorous or intense training for experienced teachers covered classroom observation and feedback techniques; approaches for modeling classroom lessons for new teachers; strategies for counseling new teachers and for providing emotional support as they adjusted to the demands of full-time classroom teaching; and in one case, procedures for conducting performance evaluations as part of a formal peer assistance and review program within which the local induction program operated.

Training sessions were scheduled throughout the school year. By far the most common form of university involvement was the development and delivery of

special courses for new teachers, their experienced partner or mentor teacher, or both.

Cost Considerations

Frequent training sessions for experienced teachers were accompanied by the cost of the personnel who conducted the training as well as the cost of the time teachers spent attending the training. The cost of trainers varied considerably across projects. Some relied on high-priced consultants to deliver training sessions, while others relied on district staff, development specialists, or university staff. When trainers were not part of the induction project's staff, costs were incurred by the district or university. These included trainers' preparation time as well as their actual presentation time.

With respect to teachers' time, training after school or on weekends carried a cost, which was calculated as the most valuable opportunity forgone. In this case, this was contract time for which the experienced teachers receive full salary and benefits. The most accurate way to assess the cost of teachers' time was to multiply the hours spent in training sessions conducted outside of school hours by teachers' regular hourly wages. This opportunity cost reflected a fair assessment of the level of effort expended by experienced teachers. Many projects reimbursed their experienced teachers for attending training sessions at a level far lower than this opportunity cost. Although this pattern of reimbursement may have had little impact on project effectiveness, the real cost of implementation was the full value of teachers' time, and it is this cost that should be considered.

When training sessions were scheduled during released time, an additional cost consideration came into play. In this case, the cost of teachers' time was still conceptualized in terms of their regular wages. It was not assessed in terms of substitute teachers' wages. For example, when the experienced teachers left their classrooms to attend training, students lost the opportunity to learn under optimal teaching conditions. Substitute teachers were rarely an adequate replacement, especially for experienced master teachers who were released from class. Therefore, to fairly represent the cost of released time to students, we considered more than just the cost of hiring substitutes. We considered the cost of the opportunity those students gave up, which is best conceptualized as the difference between the substitutes' wages and the experienced teachers' regular salaries and benefits.

Structuring Time for New Teacher Support

Once the CNTP projects selected and assigned experienced support teachers, they faced the challenge of providing adequate time for them to work with their new teacher partners. Often schools' daily schedules permit only brief interactions among teachers before or after school, in the teacher's lounge, or during lunch. Therefore, projects that left this essential time dimension to the discretion of

participating teachers often were disappointed. Without protected or set-aside time for support, teachers were forced to squeeze in meetings among their regular classroom duties. And while these interactions sometimes fostered caring mentor relationships, they did not permit the exchange of pedagogical knowledge within observational contexts nor time for joint conferences and planning, both of which are considered crucial to the induction process (Ward, 1987; Zimpher & Rieger, 1988; Huffman & Leak, 1986; Yee, 1990). The time new teachers spend with their experienced support teachers should permit high quality or intense interaction. One means the projects used to providing time was through a daily planning period new teachers shared with their experienced support teachers. Another was setting aside time during the school day when the partners were released from their classrooms, generally to observe one another or other teachers. A third option is reducing daily teaching loads so teachers have time available each day to work together.

Many projects scheduled common preparation periods for new and experienced teacher partners, but only one was able to reduce daily teaching loads. In fact, released time proved to be one of the more difficult implementation issues the projects faced. Many were forced to decrease the amount of time teachers were released from their classrooms because they could not secure substitute teachers or because teachers were unwilling to be away from their students. Teachers were more willing to leave their classrooms when they could count on a high-quality replacement, but that was not always possible given the substitute teacher shortage. Since the projects were unable to structure released time or reduce teaching loads, teachers who were not designated California Mentor Teachers, or who were not released full time to assist several new teachers, carried full teaching assignments and thus had to weigh the relative merits of working together against the loss of instructional continuity in their classrooms.

Cost Considerations

A common daily planning period for new and experienced teacher partners only required careful scheduling. In contrast, the cost of released time for support activities during the school day was considerable, especially when this cost is conceptualized as the opportunity forgone rather than the substitute teachers' wages. On average, teachers in the CNTP projects received six released days, which were often broken into half days to facilitate interaction between partners at more regular intervals. Use of released time varied based on projects' insistence that it be taken. Some projects required teachers to use the released time while others merely made it available. As discussed earlier, loss of instructional continuity associated with released time also carried with it costs to students.

Compensating Experienced Support Teachers

As is recommended in the literature (*e.g.*, Huling-Austin, 1988; Zimpher &

Rieger, 1988), approximately three quarters of the CNTP projects compensated experienced support teachers for the time they spent on induction activities. The stipend amounts were based on prevailing practice in cooperating school districts concerning extra pay for performing additional professional assignments, the nature of the assistance the experienced teachers were asked to provide, and the amount of time they spent in induction activities outside regular school hours. For example, in some projects the experienced teachers were simply asked to function as informal "buddy" teachers who were available to respond to new teachers' questions and concerns. Since they carried no specific responsibilities and did not invest additional time before or after school hours, they received minimal stipends, usually of no more than $50. In contrast, experienced teachers who were asked to attend training sessions with their assigned new teachers on weekends, and were required to log a specified number of support hours with their assigned new teacher during the school year, received annual stipends of $300 to $2,000.

The stipends experienced teachers received rarely equaled or exceeded the opportunity cost of their time. As mentioned earlier, this cost is most appropriately calculated in terms of teachers' regular salary because it represents the most valuable alternate use of their time. For example, when an experienced teacher spent 100 hours during a school year supporting a new teacher during noncontract time, the value of this time should be conceptualized as 100 hours multiplied by the teacher's hourly pay rate rather than the stipend they received. Given the discrepancy, many experienced teachers ended up volunteering a large portion of their time for support activities.

Promising Strategies to Provide On-the-Job Training for New Teachers

The CNTP projects offered several types of training sessions for new teachers. These included special beginning-of-the-year orientations, seminars and workshops that were held throughout the year, university courses for which graduate credit was given, and opportunities to attend local, regional, and national professional conferences. There was considerable variation in the training content offered and in the way training sessions were organized and delivered.

Relevance of Training Content and Follow-up

Local projects that provided the most relevant training took the time to ask new teachers about their needs and concerns. In some cases, the projects surveyed new teachers; in others, they tailored their training components based on suggestions they received from new teachers on evaluation forms they distributed following training sessions or through informal feedback new teachers offered.

While colleges and universities brought to the induction projects knowledge of new teachers' needs and current and relevant pedagogical knowledge, they also

faced the challenge of structuring training opportunities that extended and did not merely repeat content covered in teacher training. In most cases, the new teachers they trained were graduates of the universities' preservice programs. The most common problem was overly theoretical courses that needed to be revamped to focus on more concrete strategies and provide time for discussion of actual teaching problems and development of possible solutions.

Consistent with the literature concerning the challenges and problems new teachers face in managing and organizing their classrooms (*e.g*., Veenman, 1984), classroom management and organization strategies were the focus of training sessions new teachers attended before the start of school and during the fall. Most projects offered training in effective instructional practices later in the school year when new teachers were ready to turn their attention to these matters. Over the course of the year, and using a variety of formats (*e.g*, seminars, critical incident writing and analysis, journal writing, discussion, lectures, and Saturday workshops), courses and training sessions addressed topics ranging from classroom management and organization to specific instructional strategies/methods and teaching in the content areas.

Training sessions also focused on teaching culturally and linguistically diverse students in response to challenges placed on most of the new teachers by changing student demographics. In each year of the CNTP, no more than 15 percent of the participating new teachers held bilingual teaching certificates or language development certificates, certification that qualified them to teach in diverse classrooms. However, two-thirds taught in classrooms in which students spoke three or more languages. Of these, 12 percent taught classes in which students spoke five or more languages (Dianda, 1993).

University-based directors of several induction pilot projects and their district-based counterparts reported they had no choice but to give major attention to instruction of diverse students given the new teachers' assignments. Therefore, across the projects, courses, seminars and workshops offered by universities often included components on second language acquisition, multicultural education, and instructional strategies to promote concurrent development of English language and academic development of limited-English-proficient students.

Projects offering more intense training opportunities for new teachers also provided for follow-up after training so that new teachers applied what they had learned. For example, several projects set aside time during training sessions for new and experienced teacher partners to plan ways in which the content of the training could be applied in the new teachers' classrooms. At subsequent sessions, the teachers had an opportunity to discuss how they were using the information and strategies and to engage in further revision and testing. Projects also provided for follow-up when the teachers returned to their schools. For example, training was followed by experienced support teachers' or university faculty members' observations in new teachers' classes as well as joint planning sessions. Opportunities for

new teachers to observe experienced teachers' use of the strategies also were included.

Structuring Time for Training

CNTP projects that provided more intense training structured their training sessions so that they were: (a) frequent, often on a monthly basis throughout the school year; (b) conducted at times during the school year and school day when teachers were most apt to benefit from the content covered; and (c) organized to require new teacher attendance, particularly if the content was deemed critical to new teachers' success. In addition, the experienced teachers who worked with the new teachers often were required to attend most, if not all, training sessions.

High-intensity training projects were distinguished by their ability to match content and training time. For example, most projects scheduled weekly after-school meetings for new and experienced teacher partners, but reserved these end-of-the-day sessions for discussing school-related matters such as preparing report cards, preparing for standardized testing, parent conferences, and discussing ways to apply in the new teachers' classrooms information presented in released day training sessions.

When training sessions were designed to equip teachers with new instructional strategies, sessions were conducted during classroom released time or on weekends when the teachers could devote their full attention to the content presented. Generally, new and experienced teachers' attendance at these sessions was required while attendance at after-school sessions was voluntary, but encouraged.

While weekends were not considered a preferred training time, Friday evening and Saturday sessions were scheduled if projects were unable to release teachers during the school week. However, in one case, weekend training was necessary because the program served teachers in small, rural districts covering a wide geographic area. Using a microwave, interactive television system operated by the collaborating university, one Saturday each month new teachers and their experienced teacher partners met at the nearest of several facilities set up to receive the university's transmission. Generally, these facilities were within a one-hour drive of the teachers' homes, compared with a four- to eight-hour drive to the university campus.

Cost Considerations

The costs associated with determining which kinds of training activities will best meet new teachers' needs were minimal. Even when such needs sensing was a structured component of a project, it usually involved quick tabulation of a short survey by the project director. The director's time was supported by funds allocated to project administration. In contrast, increasing the intensity of program implementation by providing frequent training sessions also increased program costs; for as we have discussed, whenever teachers and trainers devote their time to project

activities, the value of this time must be assessed. Moreover, the cost burden of this training shifts depending on when the sessions are held. After-school and weekend training sessions usually required teachers to volunteer their time, since stipends rarely equaled the opportunity cost of this time. On average, these stipends amounted to $15 per hour; teachers' hourly wages ranged from approximately $18 to $36 per hour. Training held during released time also incurred costs in terms of the burden on students whose learning experiences were interrupted and on projects in terms of hiring substitute teachers.

Promising Strategies for Administering Induction Projects

Our examination of the local induction projects in the CNTP also provided information about the kinds of administrative arrangements that were associated with successful service delivery, an aspect of induction efforts that often receives little attention (Ishler & Edelfelt, 1989).

Universities were the most frequent cosponsor of the CNTP projects. In several cases, they were the lead agencies in consortia involving three or more agencies. Productive partnerships between universities school districts, and other partners occurred when the following key features were in place:

Ensuring Effective Leadership:
Director's grounding in and familiarity with local context;
Director's position sufficiently influential for effective administration and consistent leadership and administration;
Sufficient time for project administration.

Accommodating Multiple Project Sponsors:
Grounding in prior cooperative efforts or an already existing consortia;
Designation of one agency as lead agency for implementation, with other agencies participating in joint project governance;
Division of labor among universities and other agencies in ways that took advantage of their respective areas of expertise and experience.

Ensuring Effective Leadership

Project implementation was more successful when the project director was grounded in and familiar with the local context and occupied a position within a sponsoring agency that was sufficiently influential for effective administration (*i.e.*, the director was able to garner the personnel and other resources necessary for administration). The directors' positions in their institutions ranged from assistant superintendent to classroom teacher, and included university professors and staff. Although rare, experienced classroom teachers released from classroom duties were able to successfully implement projects that served a limited number of new

teachers due to their firm grounding in the local school context. This was never possible in large projects, however, which demanded a sufficient degree of influence over key staff to ensure effective leadership. Some projects served more than 200 new teachers in several school districts and involved county offices of education and local teacher associations, as well as the university. Effective leadership in these context required power and influence as well as local grounding. In one large urban project, for example, one of the co-directors was a longtime district administrator, the other a former district staff member who had joined a cosponsoring university. Their understanding of the district's politics and operating procedures enabled them to bypass structural stumbling blocks that would have undoubtedly caused problems for project adminstrators with less experience and influence in that setting.

With respect to university-based project directors, most were not faculty members, but were staff in the school or department of education, and more specifically in the teacher training program. Consequently, they often had long established relationships with the school districts participating in the induction project through prior placements of student teachers. Most had previously taught courses in the universities' preservice programs. All had supervised student teachers. Each brought a strong commitment to the induction projects and a firm conviction that the university's responsibility for teacher preparation extended beyond the granting of a credential. In all cases, the same university-based directors were in place for the duration of the three-year pilot. Therefore, the induction projects enjoyed the benefits of consistent leadership and administration.

In most projects, directors underestimated the amount of time they needed to be involved in project administration. How much time was enough? That varied greatly from a few days to more than 50 percent time across projects, depending on local needs, the project's size, the number of other project staff, and how the project organized service delivery. Large projects generally supported a part-time director as well as part-time project coordinators who were responsible for specific administrative, training, or support activities. In some cases, this was an administrative necessity, particularly in projects that served hundreds of new teachers in multiple districts and involved numerous county offices of education. Projects of this size needed a strong central administration, a role universities are equipped to fill. Projects with coordinators ran more smoothly when the director and coordinators were either housed in the same agency (*e.g.*, university) or in two agencies that had a long-standing pattern of shared staffing (*e.g.*, county offices of education in contiguous counties, universities and cooperating school districts). Moreover, project directors were not able to administer induction projects effectively if this responsibility was added to their other full-time job responsibilities. We therefore advise against using volunteer or contributed time for project administration.

Accommodating Multiple Agency Sponsors

Most of the CNTP projects relied on a number of sponsors that contributed project funding, including county offices of education, local districts, universities, and local teacher associations. In addition to providing needed resources, multiple sponsors often strengthened project implementation. For example, partnership with a university often helped ensure fidelity to the induction model the project sought to implement, brought to the project a knowledge of new teachers' needs, and offered courses and seminars that addressed these needs. However, project administration across multiple sponsors was often complex and challenging. Projects that ran smoothly and delivered intended services to new teachers shared several features.

First, projects with multiple sponsors benefited from prior collaborative or cooperative relationships among the partners. Creating new partnerships was demanding in terms of time, dollars, and inter-agency relations. Several projects involving universities built on prior collaboration and cooperation with county offices of education and neighboring school districts.

Second, the collaborators vested overall responsibility for project implementation in one agency, defined the roles each agency would perform, and, in many cases, assigned responsibility for the implementation of project elements to various collaborators. Therefore, the collaborators knew what they were to do and had clear understandings of what the other agencies involved in the projects could and would deliver. Most projects operated under the terms of formal agreements made among project sponsors when they submitted their CNTP proposals.

Responsibility for project activities was divided differently depending on the local context, prior collaboration, and the number of collaborators involved. Often, each organization was responsible for a particular element (*e.g.*, training of support teachers, pairing of new and experienced teachers, or conducting monthly after-school workshops). However, project sponsors' roles often were predictable. Projects with district and university co-sponsorship generally placed responsibility with the school district for pairing new and experienced teachers and for conducting selected training sessions. As discussed earlier, the university frequently was responsible for providing courses tailored to the needs of beginning teachers.

Cost Considerations

Most projects apportioned the bulk of their resources to training and support activities and kept administrative costs relatively low. Still, resources were expended on activities needed to coordinate training and support services. Because most projects were administered by individuals who had other positions in the university or school district, directors were released from their other duties for the portion of time they allocated to project administration. Therefore, there were opportunity costs associated with project directorship.

While individuals from a variety of positions were able to administer the induction projects effectively, additional costs were incurred in projects run by personnel in high-paying positions. In some local contexts, investing resources in higher-priced project administrators was an effective use of resources, since directors in positions of power were able to garner personnel and other required resources.

Local project sponsorship by multiple agencies did not necessarily increase administrative costs; instead, it brought additional financial resources to the project. However, these projects also required careful administration, marked by clear agreements and a division of labor.

Conclusions

We conclude by reviewing selected induction strategies we discussed in relation to their costs and by suggesting possible ways in which the costs of high-quality induction assistance may be kept relatively low.

In our discussion of new teacher support, we noted the importance of selecting and training high-quality experienced teachers and structuring their time with new teachers to facilitate interactions that were protected from the everyday demands of teaching. By taking advantage of the California Mentor Teacher Program, many of the CNTP projects were able to secure master teachers who, in some cases, were already provided with protected time for mentoring. Similarly, training costs for new and experienced teachers may also be minimized by taking advantage of district in-service training, provided the content is relevant and appropriate. Tapping into existing services and programs may help program planners curb transactional costs.

Throughout the sections on new teacher support and training, we spoke of the importance of guaranteeing high-quality time for interaction between new teachers and their experienced teacher partners and for conducting training sessions at times during the school day and work week when teachers could best absorb the content offered. This time took two forms: released time and after-school or weekend time. Teachers' time in either form carries important opportunity costs, but in terms of the dollars actually spent by projects, after-school or weekend time proved to be less expensive than released time since fewer hours were usually invested. Scheduling activities at these times also carried the benefit of not interrupting students' learning experiences. Still, it is important to assess participants' willingness to volunteer extra time before this cost-cutting measure should be considered feasible.

In addition, there are promising induction strategies that involve little or no additional resources. For example, it costs almost nothing, except perhaps the time involved in developing and compiling a short or informal survey, to determine what types of support and training teachers in particular districts feel they need most. Similarly, planning follow-up activities within the time guidelines set for a training

session is another way to maximize the effectiveness of training by encouraging application.

Finally, we talked about effective project administration by central office administrators, university faculty, and district staff. All were equally able to administer local induction projects if they were provided time to do so and were appropriately matched to their local context. In a few cases, administration by a classroom teacher who was released from teaching part time was successful. In other cases, more highly priced central office staff were needed to administer the projects so school principals and others would participate. Projects held administrative costs down by using the lowest-salaried individual who had the knowledge, sufficient influence, and experience in the local setting required to marshal needed resources. Similarly, cost-sharing across funding constituencies distributed the cost of project operation just as a division of labor among the sponsors eased the burden of implementation on any single agency.

These are only some of the cost-savings approaches those responsible for planning and operating new teacher support projects may wish to consider. We believe cost and cost-savings considerations will be more and more important in the future. Increasingly, teacher educators and district personnel will be called upon to implement induction strategies like the ones we found in the CNTP projects—high-quality, research-based approaches that are far from cost-free, but which hold great promise for enhancing the professional practice of novice teachers.

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Promising New Teacher Support Strategies and Their Costs

By Marcella R. Dianda & Karen Hunter Quartz

The California New Teacher Project (CNTP) encouraged school districts to compete for special state funding by proposing models of new teacher support individually or in collaboration with others. Often, collaborators were colleges and universities. In fact, 80 percent of the proposals submitted in the first year of the CNTP were school district-university collaborations (Morey, 1990). During the third year, 16 colleges and universities contributed in various capacities to the local induction projects. University participants included California State University and University of California campuses as well as private colleges. College and university staff and faculty were project administrators, trainers, classroom observers, new teacher mentors, subject-matter experts, and technical advisors on telecommunications technology.

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In this article, we describe several promising new teacher support strategies universities and their district partners implemented. We also discuss the resources expended to implement each strategy using an economic approach that has been applied to

other kinds of educational programs (Levin, 1983), but to our knowledge, not to new teacher support efforts. When studies have attended to induction costs (see Defino & Hoffman, 1984; Griffin, 1987), they have focused on limited budgetary costs, and as a result, have not provided a sense of the total effort needed for successful new teacher support. We begin by framing new teacher support strategies according to their programmatic and economic dimensions. Discussions of specific induction strategies and their associated costs, in terms of monetary and other resources, follow. We conclude with strategies that make the most sense economically and therefore might be of greatest interest to teacher educators and the local educators with whom they structure successful partnerships on behalf of new teachers.

Framing New Teacher Support Dimensions and Associated Costs

As they began operation, the CNTP projects implemented each of the tasks listed in Table 1 under the three program dimensions to which resources were allocated: support, training, and project administration. Projects selected, assigned, and compensated experienced teachers who assisted beginning teachers; designed staff development opportunities for new teachers; and structured time during the school day and school year for support and training activities. In addition, projects made decisions related to effectively administering those activities.

While the teacher induction literature provides some guidance about how best to implement these tasks (see, for example, Kennedy 199l; Little, 1990; Zimpher, 1988), as a practical matter local project planners were forced to decide on reasonable approaches relative to their local contexts and available resources. These decisions resulted in differences in the "intensity"—the scope, timeliness, relevance, and/or frequency—with which the projects carried out each support, training, and administrative task. We array the least and most intense implementations in Table 1. Because our purpose is to suggest high quality or promising strategies, we focus primarily on more intense implementation within each dimension, and on associated costs. Strategies were judged more intense when they were associated with increased new teacher effectiveness, as measured by teachers' attitudes as well as observations of their performance (see Ward *et al*., 1990, 1992; Dianda *et al*., 1991).

In all cases, the projects augmented special state CNTP monies, which provided partial support with other state, university, and local funds. All the sources from which the projects received funding are listed under the project constituency column in the cost framework presented in Table 2. These sources included state funding agencies (primarily the two agencies administering the CNTP pilot), county offices of education, school districts, and colleges and universities.

However, the funding provided by these agencies only constituted a fraction

Table 1

Program Dimensions, Implementation Tasks, and Intensity of Implementation

Table 2

Key Cost Considerations Associated with the Delivery of New Teacher Support

of the actual resources required to provide new teacher support services. Therefore, the economic framework used in our study of the CNTP considers more than the actual dollars arrayed in project budgets. First, it provides an accurate picture of expended resources through the notion of opportunity costs (Levin 1983). Opportunity costs are a different way of thinking about the cost of any program or intervention, including new teacher induction. They enable program planners and those who evaluate induction programs to represent the actual level of effort required to deliver new teacher services. More specifically, opportunity costs provide a means of calculating the full value of project participants' time in terms of the most valuable alternative use of that time. This is especially important because, as with most programs, project participants' time is the most significant ingredient associated with delivering new teacher services.

Second, the economic framework provides an accurate picture of expended resources through a broadened vision of project constituencies by including those who invest uncompensated or volunteer hours in new teacher support activities. These constitutencies included project participants, such as teachers, university staff, and students in the schools in which teachers in the CNTP taught. Each constituency helped bear the cost of project implementation. Students bore some of the burden of induction efforts when their teachers were released for support and training activities. On those occasions, students gave up the opportunity for regular classroom instruction. This opportunity cost was part of the total effort required to run the CNTP projects. And when teachers and others attended such support

training activities after school or on weekends without compensation, they contributed their time. That contribution is calculated as the most valuable alternative use of their time, or, in terms of their regular compensation during the school day. Overall, then, the economic framework considers investments in a new teacher support projects by volunteers (uncompensated time by project participants) and students (interrupted instructional time) as well as financial resources invested by various funding sources.

In the following sections, we apply these programmatic and economic frameworks as we discuss the characteristics and costs of promising strategies. We begin with new teacher support strategies. Our focus is only on costs related to the provision of new teacher support services. Assessments of new teachers are not considered because they were not part of the CNTP projects. If programs involve such assessments, associated costs need to be considered.

New Teacher Support Strategies

Generally, the new teacher support projects structured new teacher support by pairing a new teacher with an experienced educator. However, within this prevailing practice, there was considerable variability with respect to how the experienced educators were selected and trained for this support role, and compensated for the time they spent assisting their assigned new teacher. The CNTP projects also differed in the degree to which they instituted mechanisms to increase the new and experienced educators' access to their partner teacher.

In a few projects, faculty from the college's or university's school of education coached new teachers. Such relationships were consultative rather than supervisory or evaluative. Most often, consultation by faculty augmented school-based one-on-one assistance by Mentor Teachers or other experienced teachers. In most cases, a college or university faculty member consulted with 15 to 25 new teachers.

Across all three years of the CNTP, university involvement generally was restricted to faculty from the preservice preparation program, either by design or because it proved difficult to draw upon the expertise of wider university faculty (Morey & Murphy, 1990). Still, wider university faculty's involvement with secondary teachers did occur, especially in the sciences where the faculty members' content expertise was particularly valuable. In one project, for example, physics and biology faculty from the university provided supplies, lent and repaired equipment for science teachers, and helped new teachers set up science demonstrations for their students (Waters *et al*., 1990).

Selecting and Assigning Experienced Support Providers

The induction literature urges those who plan new teacher programs to select experienced support providers who are themselves master teachers, who are able to understand and work with novice colleagues (Shulman, 1986; Zimpher & Rieger,

1988; Ruskus, 1988; Kennedy, 1991). Most of the CNTP projects actively recruited veteran teachers who had the experience and motivation required to assist new teachers. Projects developed formal lists of support teachers' duties and responsibilities, specified selection criteria, and sought teachers who met these qualifications. Four strategies were commonly used to identify highly qualified experienced support teachers.

First, the projects selected California Mentor Teachers, individuals who had, by virtue of their designation as Mentors, demonstrated effective communication skills, subject matter knowledge, and mastery of a range of teaching strategies (Wager, 1985). The Mentor Teacher Program operated in many of the school districts involved in the CNTP. If Mentors did not provide one-on-one support to new teachers, they conducted demonstration lessons and workshops, observed new teachers' instruction and provided feedback, and/or provided new teachers with materials and resources.

Second, some projects used experienced classroom teachers who were selected through a competitive process and released full time from their classroom duties to support new teachers. Assigned to assist up to 15 new teachers across school sites, these experienced teachers were readily available to their assigned new teachers. They were able to visit new teachers' classrooms at least weekly and often more frequently, to accompany their assigned new teachers when they observed in others' classrooms, and to provide extra support as needed. To obtain their special assignment to assist new teachers, the experienced teachers underwent a rigorous screening process conducted by local administrators, teachers, and in some cases, teacher educators.

Third, a few projects created school-based teams of experienced educators who augmented the assistance provided by individual Mentors or experienced teachers. Members generally included an administrator, a California Mentor Teacher, and new teachers and their experienced support teachers. Meeting approximately monthly, the teams functioned as forums where members could reflect on their activities and engage in dialogues about teaching, the curriculum, and conditions at the school. Team members often kept journals and shared their journal entries at team meetings. This opportunity to exchange ideas and problem solve was facilitated by released time provided by the projects.

Fourth, one project recruited retired master teachers to augment the assistance new teachers received from experienced teachers at their schools. All the retired teachers had supervised student teachers prior to their retirement. Retired teachers visited their assigned new teachers frequently during the year, with each in-class visit averaging three hours (which was typically a longer block of time than was available to experienced teachers who taught full time during the school day).

Cost Considerations

Experienced teacher selection was associated with two kinds of costs. First,

there are costs in terms of the time spent evaluating potential candidates. Several projects developed elaborate systems to screen and select support teachers. This involved time by project, district, school, and, in some cases, university staff. Second, the opportunity costs of new teacher support by rigorously screened, and therefore presumably highly qualified, support teachers exceeded that of support by lesser qualified teachers.

The California Mentor Teacher Program provided projects with a ready-made core of master teachers, and served as a funding source in many projects. Projects used all or a portion of the annual Mentor Teacher stipends districts received from the Mentor Teacher Program to compensate Mentors. Even though the stipends Mentor Teachers received often were insufficient to cover the opportunity cost of the time they actually spent supporting new teachers, Mentor Teacher Program funds nonetheless served as a reliable funding source. In comparison, the second strategy, hiring expert teachers full time to assist new teachers, was costly. Projects that chose this strategy usually relied on a core of three to five support teachers who assisted all new teachers. Although costly, these were highly qualified individuals who had sufficient time to work with their assigned new teachers. A less costly alternative, school-based support teams, still required projects to secure funds for substitute teachers to ensure protected time for team meetings during the school day.

Although only one of the local projects used the fourth strategy, retired teachers as support providers, there were decided advantages. Not only were retirees enthusiastic about sharing their expertise with new teachers, their time was unencumbered compared to teachers with full-time teaching responsibilities. The project that used retired teachers compensated them by paying an annual consulting fee.

Training Experienced Teachers to Fill Their Support Role

Those who advocate training for experienced support teachers argue that classroom teaching provides little or no preparation to meet the special demands of this support role (Little, 1990; Wildman *et al*., 1989; Shulman, 1986). Within the CNTP, more rigorous or intense training for experienced teachers covered classroom observation and feedback techniques; approaches for modeling classroom lessons for new teachers; strategies for counseling new teachers and for providing emotional support as they adjusted to the demands of full-time classroom teaching; and in one case, procedures for conducting performance evaluations as part of a formal peer assistance and review program within which the local induction program operated.

Training sessions were scheduled throughout the school year. By far the most common form of university involvement was the development and delivery of

special courses for new teachers, their experienced partner or mentor teacher, or both.

Cost Considerations

Frequent training sessions for experienced teachers were accompanied by the cost of the personnel who conducted the training as well as the cost of the time teachers spent attending the training. The cost of trainers varied considerably across projects. Some relied on high-priced consultants to deliver training sessions, while others relied on district staff, development specialists, or university staff. When trainers were not part of the induction project's staff, costs were incurred by the district or university. These included trainers' preparation time as well as their actual presentation time.

With respect to teachers' time, training after school or on weekends carried a cost, which was calculated as the most valuable opportunity forgone. In this case, this was contract time for which the experienced teachers receive full salary and benefits. The most accurate way to assess the cost of teachers' time was to multiply the hours spent in training sessions conducted outside of school hours by teachers' regular hourly wages. This opportunity cost reflected a fair assessment of the level of effort expended by experienced teachers. Many projects reimbursed their experienced teachers for attending training sessions at a level far lower than this opportunity cost. Although this pattern of reimbursement may have had little impact on project effectiveness, the real cost of implementation was the full value of teachers' time, and it is this cost that should be considered.

When training sessions were scheduled during released time, an additional cost consideration came into play. In this case, the cost of teachers' time was still conceptualized in terms of their regular wages. It was not assessed in terms of substitute teachers' wages. For example, when the experienced teachers left their classrooms to attend training, students lost the opportunity to learn under optimal teaching conditions. Substitute teachers were rarely an adequate replacement, especially for experienced master teachers who were released from class. Therefore, to fairly represent the cost of released time to students, we considered more than just the cost of hiring substitutes. We considered the cost of the opportunity those students gave up, which is best conceptualized as the difference between the substitutes' wages and the experienced teachers' regular salaries and benefits.

Structuring Time for New Teacher Support

Once the CNTP projects selected and assigned experienced support teachers, they faced the challenge of providing adequate time for them to work with their new teacher partners. Often schools' daily schedules permit only brief interactions among teachers before or after school, in the teacher's lounge, or during lunch. Therefore, projects that left this essential time dimension to the discretion of

participating teachers often were disappointed. Without protected or set-aside time for support, teachers were forced to squeeze in meetings among their regular classroom duties. And while these interactions sometimes fostered caring mentor relationships, they did not permit the exchange of pedagogical knowledge within observational contexts nor time for joint conferences and planning, both of which are considered crucial to the induction process (Ward, 1987; Zimpher & Rieger, 1988; Huffman & Leak, 1986; Yee, 1990). The time new teachers spend with their experienced support teachers should permit high quality or intense interaction. One means the projects used to providing time was through a daily planning period new teachers shared with their experienced support teachers. Another was setting aside time during the school day when the partners were released from their classrooms, generally to observe one another or other teachers. A third option is reducing daily teaching loads so teachers have time available each day to work together.

Many projects scheduled common preparation periods for new and experienced teacher partners, but only one was able to reduce daily teaching loads. In fact, released time proved to be one of the more difficult implementation issues the projects faced. Many were forced to decrease the amount of time teachers were released from their classrooms because they could not secure substitute teachers or because teachers were unwilling to be away from their students. Teachers were more willing to leave their classrooms when they could count on a high-quality replacement, but that was not always possible given the substitute teacher shortage. Since the projects were unable to structure released time or reduce teaching loads, teachers who were not designated California Mentor Teachers, or who were not released full time to assist several new teachers, carried full teaching assignments and thus had to weigh the relative merits of working together against the loss of instructional continuity in their classrooms.

Cost Considerations

A common daily planning period for new and experienced teacher partners only required careful scheduling. In contrast, the cost of released time for support activities during the school day was considerable, especially when this cost is conceptualized as the opportunity forgone rather than the substitute teachers' wages. On average, teachers in the CNTP projects received six released days, which were often broken into half days to facilitate interaction between partners at more regular intervals. Use of released time varied based on projects' insistence that it be taken. Some projects required teachers to use the released time while others merely made it available. As discussed earlier, loss of instructional continuity associated with released time also carried with it costs to students.

Compensating Experienced Support Teachers

As is recommended in the literature (*e.g.*, Huling-Austin, 1988; Zimpher &

Rieger, 1988), approximately three quarters of the CNTP projects compensated experienced support teachers for the time they spent on induction activities. The stipend amounts were based on prevailing practice in cooperating school districts concerning extra pay for performing additional professional assignments, the nature of the assistance the experienced teachers were asked to provide, and the amount of time they spent in induction activities outside regular school hours. For example, in some projects the experienced teachers were simply asked to function as informal "buddy" teachers who were available to respond to new teachers' questions and concerns. Since they carried no specific responsibilities and did not invest additional time before or after school hours, they received minimal stipends, usually of no more than $50. In contrast, experienced teachers who were asked to attend training sessions with their assigned new teachers on weekends, and were required to log a specified number of support hours with their assigned new teacher during the school year, received annual stipends of $300 to $2,000.

The stipends experienced teachers received rarely equaled or exceeded the opportunity cost of their time. As mentioned earlier, this cost is most appropriately calculated in terms of teachers' regular salary because it represents the most valuable alternate use of their time. For example, when an experienced teacher spent 100 hours during a school year supporting a new teacher during noncontract time, the value of this time should be conceptualized as 100 hours multiplied by the teacher's hourly pay rate rather than the stipend they received. Given the discrepancy, many experienced teachers ended up volunteering a large portion of their time for support activities.

Promising Strategies to Provide On-the-Job Training for New Teachers

The CNTP projects offered several types of training sessions for new teachers. These included special beginning-of-the-year orientations, seminars and workshops that were held throughout the year, university courses for which graduate credit was given, and opportunities to attend local, regional, and national professional conferences. There was considerable variation in the training content offered and in the way training sessions were organized and delivered.

Relevance of Training Content and Follow-up

Local projects that provided the most relevant training took the time to ask new teachers about their needs and concerns. In some cases, the projects surveyed new teachers; in others, they tailored their training components based on suggestions they received from new teachers on evaluation forms they distributed following training sessions or through informal feedback new teachers offered.

While colleges and universities brought to the induction projects knowledge of new teachers' needs and current and relevant pedagogical knowledge, they also

faced the challenge of structuring training opportunities that extended and did not merely repeat content covered in teacher training. In most cases, the new teachers they trained were graduates of the universities' preservice programs. The most common problem was overly theoretical courses that needed to be revamped to focus on more concrete strategies and provide time for discussion of actual teaching problems and development of possible solutions.

Consistent with the literature concerning the challenges and problems new teachers face in managing and organizing their classrooms (*e.g*., Veenman, 1984), classroom management and organization strategies were the focus of training sessions new teachers attended before the start of school and during the fall. Most projects offered training in effective instructional practices later in the school year when new teachers were ready to turn their attention to these matters. Over the course of the year, and using a variety of formats (*e.g*, seminars, critical incident writing and analysis, journal writing, discussion, lectures, and Saturday workshops), courses and training sessions addressed topics ranging from classroom management and organization to specific instructional strategies/methods and teaching in the content areas.

Training sessions also focused on teaching culturally and linguistically diverse students in response to challenges placed on most of the new teachers by changing student demographics. In each year of the CNTP, no more than 15 percent of the participating new teachers held bilingual teaching certificates or language development certificates, certification that qualified them to teach in diverse classrooms. However, two-thirds taught in classrooms in which students spoke three or more languages. Of these, 12 percent taught classes in which students spoke five or more languages (Dianda, 1993).

University-based directors of several induction pilot projects and their district-based counterparts reported they had no choice but to give major attention to instruction of diverse students given the new teachers' assignments. Therefore, across the projects, courses, seminars and workshops offered by universities often included components on second language acquisition, multicultural education, and instructional strategies to promote concurrent development of English language and academic development of limited-English-proficient students.

Projects offering more intense training opportunities for new teachers also provided for follow-up after training so that new teachers applied what they had learned. For example, several projects set aside time during training sessions for new and experienced teacher partners to plan ways in which the content of the training could be applied in the new teachers' classrooms. At subsequent sessions, the teachers had an opportunity to discuss how they were using the information and strategies and to engage in further revision and testing. Projects also provided for follow-up when the teachers returned to their schools. For example, training was followed by experienced support teachers' or university faculty members' observations in new teachers' classes as well as joint planning sessions. Opportunities for

new teachers to observe experienced teachers' use of the strategies also were included.

Structuring Time for Training

CNTP projects that provided more intense training structured their training sessions so that they were: (a) frequent, often on a monthly basis throughout the school year; (b) conducted at times during the school year and school day when teachers were most apt to benefit from the content covered; and (c) organized to require new teacher attendance, particularly if the content was deemed critical to new teachers' success. In addition, the experienced teachers who worked with the new teachers often were required to attend most, if not all, training sessions.

High-intensity training projects were distinguished by their ability to match content and training time. For example, most projects scheduled weekly after-school meetings for new and experienced teacher partners, but reserved these end-of-the-day sessions for discussing school-related matters such as preparing report cards, preparing for standardized testing, parent conferences, and discussing ways to apply in the new teachers' classrooms information presented in released day training sessions.

When training sessions were designed to equip teachers with new instructional strategies, sessions were conducted during classroom released time or on weekends when the teachers could devote their full attention to the content presented. Generally, new and experienced teachers' attendance at these sessions was required while attendance at after-school sessions was voluntary, but encouraged.

While weekends were not considered a preferred training time, Friday evening and Saturday sessions were scheduled if projects were unable to release teachers during the school week. However, in one case, weekend training was necessary because the program served teachers in small, rural districts covering a wide geographic area. Using a microwave, interactive television system operated by the collaborating university, one Saturday each month new teachers and their experienced teacher partners met at the nearest of several facilities set up to receive the university's transmission. Generally, these facilities were within a one-hour drive of the teachers' homes, compared with a four- to eight-hour drive to the university campus.

Cost Considerations

The costs associated with determining which kinds of training activities will best meet new teachers' needs were minimal. Even when such needs sensing was a structured component of a project, it usually involved quick tabulation of a short survey by the project director. The director's time was supported by funds allocated to project administration. In contrast, increasing the intensity of program implementation by providing frequent training sessions also increased program costs; for as we have discussed, whenever teachers and trainers devote their time to project

activities, the value of this time must be assessed. Moreover, the cost burden of this training shifts depending on when the sessions are held. After-school and weekend training sessions usually required teachers to volunteer their time, since stipends rarely equaled the opportunity cost of this time. On average, these stipends amounted to $15 per hour; teachers' hourly wages ranged from approximately $18 to $36 per hour. Training held during released time also incurred costs in terms of the burden on students whose learning experiences were interrupted and on projects in terms of hiring substitute teachers.

Promising Strategies for Administering Induction Projects

Our examination of the local induction projects in the CNTP also provided information about the kinds of administrative arrangements that were associated with successful service delivery, an aspect of induction efforts that often receives little attention (Ishler & Edelfelt, 1989).

Universities were the most frequent cosponsor of the CNTP projects. In several cases, they were the lead agencies in consortia involving three or more agencies. Productive partnerships between universities school districts, and other partners occurred when the following key features were in place:

Ensuring Effective Leadership:
Director's grounding in and familiarity with local context;
Director's position sufficiently influential for effective administration and consistent leadership and administration;
Sufficient time for project administration.

Accommodating Multiple Project Sponsors:
Grounding in prior cooperative efforts or an already existing consortia;
Designation of one agency as lead agency for implementation, with other agencies participating in joint project governance;
Division of labor among universities and other agencies in ways that took advantage of their respective areas of expertise and experience.

Ensuring Effective Leadership

Project implementation was more successful when the project director was grounded in and familiar with the local context and occupied a position within a sponsoring agency that was sufficiently influential for effective administration (*i.e.*, the director was able to garner the personnel and other resources necessary for administration). The directors' positions in their institutions ranged from assistant superintendent to classroom teacher, and included university professors and staff. Although rare, experienced classroom teachers released from classroom duties were able to successfully implement projects that served a limited number of new

teachers due to their firm grounding in the local school context. This was never possible in large projects, however, which demanded a sufficient degree of influence over key staff to ensure effective leadership. Some projects served more than 200 new teachers in several school districts and involved county offices of education and local teacher associations, as well as the university. Effective leadership in these context required power and influence as well as local grounding. In one large urban project, for example, one of the co-directors was a longtime district administrator, the other a former district staff member who had joined a cosponsoring university. Their understanding of the district's politics and operating procedures enabled them to bypass structural stumbling blocks that would have undoubtedly caused problems for project adminstrators with less experience and influence in that setting.

With respect to university-based project directors, most were not faculty members, but were staff in the school or department of education, and more specifically in the teacher training program. Consequently, they often had long established relationships with the school districts participating in the induction project through prior placements of student teachers. Most had previously taught courses in the universities' preservice programs. All had supervised student teachers. Each brought a strong commitment to the induction projects and a firm conviction that the university's responsibility for teacher preparation extended beyond the granting of a credential. In all cases, the same university-based directors were in place for the duration of the three-year pilot. Therefore, the induction projects enjoyed the benefits of consistent leadership and administration.

In most projects, directors underestimated the amount of time they needed to be involved in project administration. How much time was enough? That varied greatly from a few days to more than 50 percent time across projects, depending on local needs, the project's size, the number of other project staff, and how the project organized service delivery. Large projects generally supported a part-time director as well as part-time project coordinators who were responsible for specific administrative, training, or support activities. In some cases, this was an administrative necessity, particularly in projects that served hundreds of new teachers in multiple districts and involved numerous county offices of education. Projects of this size needed a strong central administration, a role universities are equipped to fill. Projects with coordinators ran more smoothly when the director and coordinators were either housed in the same agency (*e.g.*, university) or in two agencies that had a long-standing pattern of shared staffing (*e.g.*, county offices of education in contiguous counties, universities and cooperating school districts). Moreover, project directors were not able to administer induction projects effectively if this responsibility was added to their other full-time job responsibilities. We therefore advise against using volunteer or contributed time for project administration.

Accommodating Multiple Agency Sponsors

Most of the CNTP projects relied on a number of sponsors that contributed project funding, including county offices of education, local districts, universities, and local teacher associations. In addition to providing needed resources, multiple sponsors often strengthened project implementation. For example, partnership with a university often helped ensure fidelity to the induction model the project sought to implement, brought to the project a knowledge of new teachers' needs, and offered courses and seminars that addressed these needs. However, project administration across multiple sponsors was often complex and challenging. Projects that ran smoothly and delivered intended services to new teachers shared several features.

First, projects with multiple sponsors benefited from prior collaborative or cooperative relationships among the partners. Creating new partnerships was demanding in terms of time, dollars, and inter-agency relations. Several projects involving universities built on prior collaboration and cooperation with county offices of education and neighboring school districts.

Second, the collaborators vested overall responsibility for project implementation in one agency, defined the roles each agency would perform, and, in many cases, assigned responsibility for the implementation of project elements to various collaborators. Therefore, the collaborators knew what they were to do and had clear understandings of what the other agencies involved in the projects could and would deliver. Most projects operated under the terms of formal agreements made among project sponsors when they submitted their CNTP proposals.

Responsibility for project activities was divided differently depending on the local context, prior collaboration, and the number of collaborators involved. Often, each organization was responsible for a particular element (*e.g.*, training of support teachers, pairing of new and experienced teachers, or conducting monthly after-school workshops). However, project sponsors' roles often were predictable. Projects with district and university co-sponsorship generally placed responsibility with the school district for pairing new and experienced teachers and for conducting selected training sessions. As discussed earlier, the university frequently was responsible for providing courses tailored to the needs of beginning teachers.

Cost Considerations

Most projects apportioned the bulk of their resources to training and support activities and kept administrative costs relatively low. Still, resources were expended on activities needed to coordinate training and support services. Because most projects were administered by individuals who had other positions in the university or school district, directors were released from their other duties for the portion of time they allocated to project administration. Therefore, there were opportunity costs associated with project directorship.

While individuals from a variety of positions were able to administer the induction projects effectively, additional costs were incurred in projects run by personnel in high-paying positions. In some local contexts, investing resources in higher-priced project administrators was an effective use of resources, since directors in positions of power were able to garner personnel and other required resources.

Local project sponsorship by multiple agencies did not necessarily increase administrative costs; instead, it brought additional financial resources to the project. However, these projects also required careful administration, marked by clear agreements and a division of labor.

Conclusions

We conclude by reviewing selected induction strategies we discussed in relation to their costs and by suggesting possible ways in which the costs of high-quality induction assistance may be kept relatively low.

In our discussion of new teacher support, we noted the importance of selecting and training high-quality experienced teachers and structuring their time with new teachers to facilitate interactions that were protected from the everyday demands of teaching. By taking advantage of the California Mentor Teacher Program, many of the CNTP projects were able to secure master teachers who, in some cases, were already provided with protected time for mentoring. Similarly, training costs for new and experienced teachers may also be minimized by taking advantage of district in-service training, provided the content is relevant and appropriate. Tapping into existing services and programs may help program planners curb transactional costs.

Throughout the sections on new teacher support and training, we spoke of the importance of guaranteeing high-quality time for interaction between new teachers and their experienced teacher partners and for conducting training sessions at times during the school day and work week when teachers could best absorb the content offered. This time took two forms: released time and after-school or weekend time. Teachers' time in either form carries important opportunity costs, but in terms of the dollars actually spent by projects, after-school or weekend time proved to be less expensive than released time since fewer hours were usually invested. Scheduling activities at these times also carried the benefit of not interrupting students' learning experiences. Still, it is important to assess participants' willingness to volunteer extra time before this cost-cutting measure should be considered feasible.

In addition, there are promising induction strategies that involve little or no additional resources. For example, it costs almost nothing, except perhaps the time involved in developing and compiling a short or informal survey, to determine what types of support and training teachers in particular districts feel they need most. Similarly, planning follow-up activities within the time guidelines set for a training

session is another way to maximize the effectiveness of training by encouraging application.

Finally, we talked about effective project administration by central office administrators, university faculty, and district staff. All were equally able to administer local induction projects if they were provided time to do so and were appropriately matched to their local context. In a few cases, administration by a classroom teacher who was released from teaching part time was successful. In other cases, more highly priced central office staff were needed to administer the projects so school principals and others would participate. Projects held administrative costs down by using the lowest-salaried individual who had the knowledge, sufficient influence, and experience in the local setting required to marshal needed resources. Similarly, cost-sharing across funding constituencies distributed the cost of project operation just as a division of labor among the sponsors eased the burden of implementation on any single agency.

These are only some of the cost-savings approaches those responsible for planning and operating new teacher support projects may wish to consider. We believe cost and cost-savings considerations will be more and more important in the future. Increasingly, teacher educators and district personnel will be called upon to implement induction strategies like the ones we found in the CNTP projects—high-quality, research-based approaches that are far from cost-free, but which hold great promise for enhancing the professional practice of novice teachers.

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